INSTRUCTION MANUAL (N:M_Ver. 1.0_101127)

H.264 Video Compression

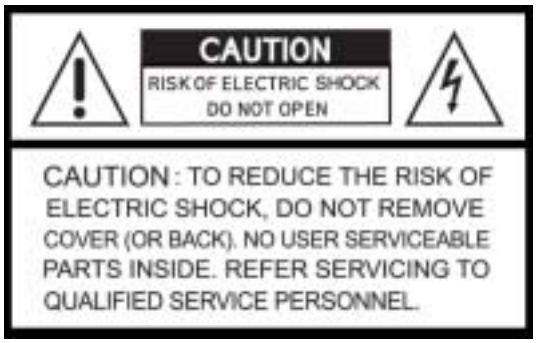
Digital Video Recorder

About this user guide

Before installing and using this unit, please read this user guide carefully.

Be sure to keep it handy for later reference.

Safety Precautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

This symbol indicates the presence of uninsulated ”dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

CAUTION

Changes or modifications not expressly approved by the manufacturer may void the user’s authority to operate this equipment.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer’s instructions.

These precautions must be followed for safety reasons.

Warning

- Do not use if the unit emits smoke, strange sounds are heard, or odor is emitted.
- Make sure the power cable is not damaged.
- Make sure there is no dust accumulation on the power plug or the outlet.
- Disassembly prohibited
- Do not place any foreign objects inside the unit.
- Do not place a container holding water or other liquids above the unit when it is connected to power.
- Do not allow the unit to get wet.
- Do not use during thunder/thunder storms.
- Do not place in an unstable position.
- Do not expose to shock or vibration.
- Do not use this unit in areas where it is exposed to the possibility of explosion.

Caution

- Do not pull on the power cable when removing the power plug from the outlet.
- Do not touch the power plug with wet hands.
- Do not sit on.
- Make sure the cables are connected properly.
- Do not place heavy objects on connected units.
- Never move this unit while the power is turned on.
- Remove the power plug from the outlet when the unit is going to remain unused for long periods of time.
- Do not block the cooling fans or air ducts.
- Do not expose to extreme temperatures or humidity changes.

Warning

Installation and servicing should be performed only by qualified and experienced personnel.

Turn off the power of the DVR when connecting cameras, audio or sensor cables.

The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.

The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

Product Components

The package contains the main unit and its components as specified below. When you purchase the unit, Please check to ensure the components specified below are included.

DVR Set	
DVD-RW (option)	
Client Software CD	
Remote Control (option)	
Battery1.5V (AAA x 2EA) (option)	
Quick Guide	
HDD data power cable	
HDD mounting bracket & Screw	
DVD-RW mounting bracket & Screw	
HDD & DVD-RW fixing screw	
Adaptor(DC12V, 5A)	
Power Cable (110V or 220V)(1EA)	
Mouse (Option)	

Items	4/8/16CH DVR	
	DVD-RW version	Basic version
HDD data power cable	1EA	2EA
HDD mounting bracket	1EA	2EA
HDD Mounting bracket screw	4EA	8EA
DVD-RW mounting bracket	1EA	X
DVD-RW Mounting bracket screw	4EA	
HDD/DVD-RW fixing screw	8EA	8EA

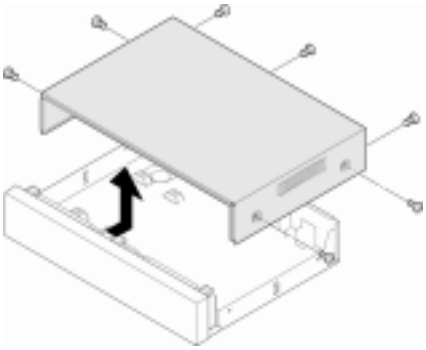
Basic function of the MOUSE

①：Left button: SELECT function

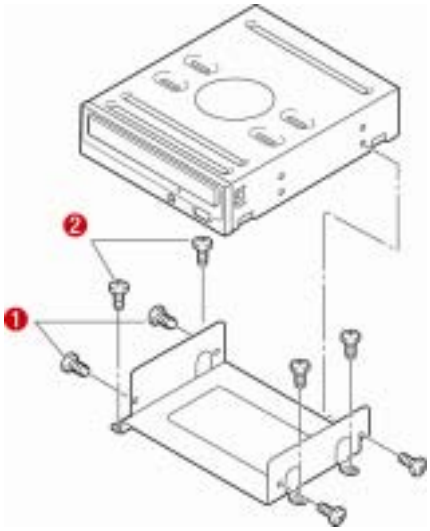
②：Wheel: MOVEMENT function on a drop-down menu

Mounting the DVD-RW

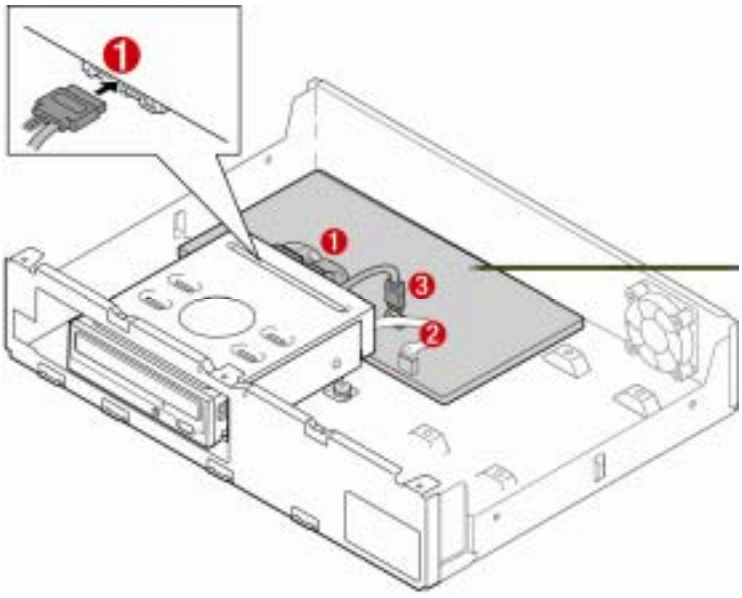
1. Unfasten the cover of the unit.



2. Fix the DVD-RW mounting bracket to the DVD-RW using the mounting bracket screws and fix the DVD-RW to the unit using the DVD-RW fixing screws.



3. Connect the DVD-RW cable to the both of DVD-RW and main board.



Mounting the HARD DISK

1. **Before installing bracket and screws onto HDD**

2. **After installing bracket and screws onto HDD.**

3. **Installation HDD and Bracket onto base case (Inside)**

4. **Installation HDD and Bracket onto base case (Outside)**

5. **After connecting power cable and data cable with HDD**

6. **Whole picture after installation HDD and DVD-RW**

Compatible HDD Models

Seagate	ST32000542AS(Barracuda LP)	2 TB	5900 RPM	32 MB
Seagate	ST31000340SV(Surveillance)	1 TB	7200 RPM	32 MB
Seagate	ST3100528AS(Barracuda)	1 TB	7200 RPM	32 MB
Seagate	ST3500830SCE	500 GB	7200 RPM	8 MB
Seagate	ST3500418AS(Barracuda)	500 GB	7200 RPM	16 MB
Seagate	ST3500410AS(Barracuda)	500 GB	7200 RPM	16 MB
Seagate	ST3250410AS(Barracuda)	250 GB	7200 RPM	16 MB
Seagate	ST3250310SV(Surveillance)	250 GB	7200 RPM	8 MB
Seagate	ST3250318AS(Barracuda)	250 GB	7200 RPM	8 MB
Seagate	ST3160815AS(Barracuda)	160 GB	7200 RPM	8 MB
HITACHI	HDS722020ALA330	2 TB	7200 RPM	32 MB
HITACHI	HDS721010KLA330	1 TB	7200 RPM	32 MB
HITACHI	HDT721010SLA360	1 TB	7200 RPM	16 MB
HITACHI	HDS721010CLA332	1 TB	7200 RPM	32 MB
HITACHI	HDS721050CLA362	500 GB	7200 RPM	16 MB
HITACHI	HDP725050GLA360	500 GB	7200 RPM	16 MB
HITACHI	HDS721032CLA362	320 GB	7200 RPM	16 MB
HITACHI	HDS721025CLA382	250 GB	7200 RPM	8 MB
HITACHI	HDT721025SLA380	250 GB	7200 RPM	8 MB
HITACHI	HDP725025GLA380	250 GB	7200 RPM	8 MB
Western Digital	WD20EADS	2 TB	7200 RPM	32 MB
Western Digital	WD10EACS	1 TB	7200 RPM	16 MB
Western Digital	WD5000AACS	500 GB	7200 RPM	16 MB
Western Digital	WD2500AAKS	250 GB	7200 RPM	16 MB

NOTICE

The brands and models of all HDD should be the same. If the brands and models of each HDD are different with others, the DVR may not recognize HDD.

Specifications

ITEM				N-0440M	N-0840M	N-1640M
Video	Input	Channel, Input Level		4CH, Composite	8CH, Composite	16CH, Composite
		Signal Format		NTSC/PAL		
		Video Loss Check		Yes		
	Output	Main Monitor Output		1 VGA (1024x768, 1280x1024 @ 60Hz),		
		Signal Format		VGA		
		Spot		2		
Audio	Input & Output			4 CH Line input & 1 CH Line output		
	Audio Codec			G.711		
Alarm	Sensor Input (NC/NO Selectable)			4ch (NC/NO Selectable)		
	Alarm Output			1 Alarm out by Sensor, Motion and Video Loss		
Record	Compression			H.264		
	Multi-operation			QUADPLEX (Playback/Record/Network/Backup)		
	Resolution	NTSC		D1 120fps	D1 120fps	D1 120fps
				Half-D1 120fps	Half-D1 240fps	Half-D1 240fps
				CIF 120fps	CIF 240fps	CIF 480fps
		PAL		D1 100fps	D1 100fps	D1 100fps
				Half-D1 100fps	Half-D1 200fps	Half-D1 200fps
				CIF 100fps	CIF 200fps	CIF 400fps
	Recording quality grade			ECONOMY, STANDARD, HIGH, SUPERIOR, ULTRA		
	Recording Mode			Continuous / Schedule / Motion/ Sensor/ Manual		
	Motion Detection			Motion detection setup by Grid		
	Recording by channel's Resolution			Yes		
	Pre Recording			1 fps for 10 seconds before an event		
	Post Recording			10 seconds to 3 minutes after an event		
Display	Frame Rate (/Sec)			NTSC: 30fps/ch, 60 fields / PAL: 25fps/ch, 50 fields		
Playback	Multi-Decoding			1, 4	1, 4, 8	1, 4, 8, 16
	Playback Speed		Single channel	X 2, 4, 8, 16		
			Multi-channels	X 2, 4, 8		
	Search Mode			Timeline, Event, Archive, Log		
Storage	HDD		Interface Type	Serial ATA		
			Capacity of 1 HDD	2TB		
			Internal HDD No.	1 (2: W/O DVD-RW)		
	File system			NaFS		

	USB Port		2 (Front 1, Rear 1)
	Backup	USB Flash drive	Video & Still Image
		Built-in DVD-RW	Video & Still Image
		Network	Video & Still Image
User I/F	Menu Display		New GUI
	Input Method		Front buttons, Remote control, Mouse, Keyboard controller
Serial port	Console		1 RS-232C (9pin D-SUB connector)
	PTZ control & Keyboard DVR control		1 RS-485
	Termination		Yes
Network	Dynamic DNS		Yes (Free DDNS)
	Network Interface		10/100/1000 base-T Ethernet (RJ-45)
	Dual Encoding for Network Streaming		Yes (CIF 120/100fps)
Network Access	Client Software (1:1)		Live, Search, Backup, PTZF Camera Control, Remote Setup
	Web viewer (1:1)		Live, Search, Backup, PTZF Camera Control
	Multi-sites Monitoring System (1:n)		Live, Search, Backup, PTZF Camera Control, Remote Setup
Features	DLS (Day Light Saving)		Yes
	Internal Beep		By Alarm, Motion, Video Loss, HDD error
	Multi-Language		Yes
	S/W Upgrade		USB Flash drive
	NTP		Yes
	3G Mobile		Yes
	POS / ATM		Yes (TBD)
	Watermark		Yes
Power source	Power Supply Voltage		DC 12V 5A
Allowable operation temperature During operation			5°C - 40°C, During storage: -10°C - +50°C
Allowable operation humidity			0 - 90 %
Weight	Unit Weight (Gross weight)		4.1Kgs (6.2Kgs) / 9Lbs(13.6Lbs)
Dimension	Unit Dimension (W x H x D)		380mm x 340mm x 72mm / 14.9” x 13.3” x 28”

Please note that specifications and unit exterior design are subject to change without notification

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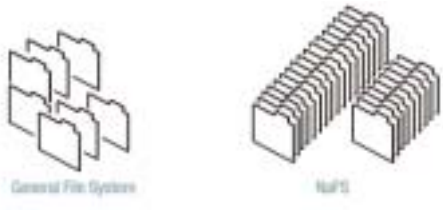
1. Main Features

- H.264 Video compression

- Reliable File system



- 2 Spots (Live and Event Pop-up)
- High quality VGA (1280X1024)
- 4channel audio recording

- Bi directional audio

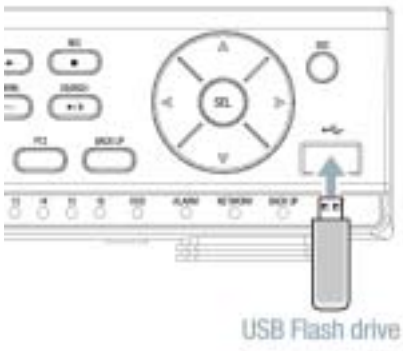
- Individual channel operation

- Motion detection

- Automatic video input and video loss detection
- Covert camera operation provides enhanced security
- Built-in PTZF camera control
- Easy and simple user interface

- Easy scheduler

- Easy software upgrade



- Instant and convenient backup via USB flash drive, network or DVD-RW

- Exclusive file format backup
- AVI backup
- Various ways of network access via Network client software, Web-viewer, CMS, UMS(Multi-site monitoring software) and Mobile Viewer

2. Name, Function and Connection

2-1. Front Panel

The following information will help you to operate the front panel controls.

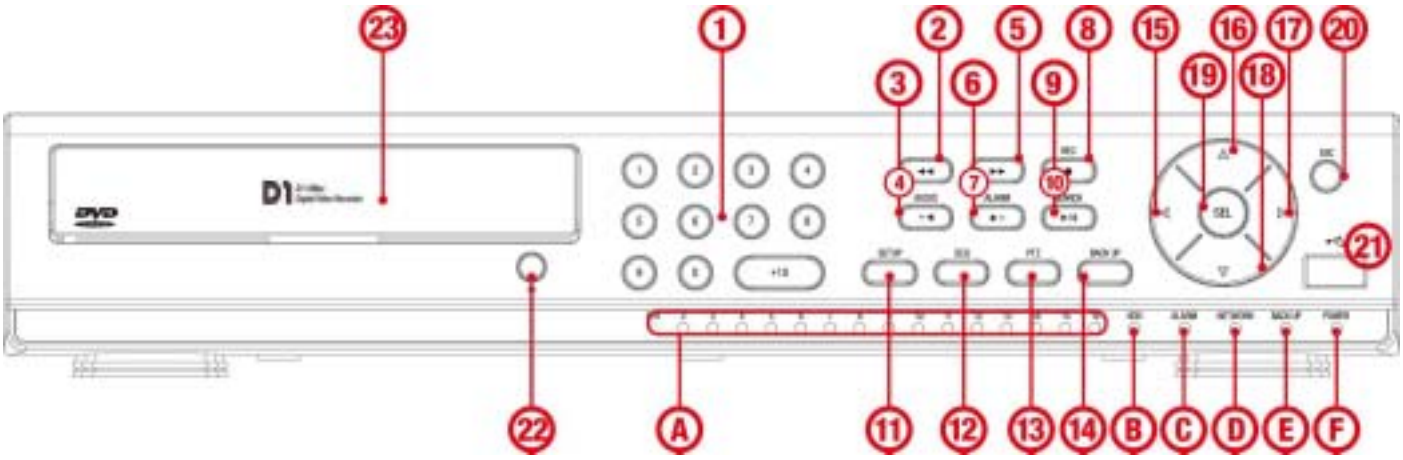


Figure 2.1.1. Front panel

Table2.1.1. Indication lamps

NO.	Name	Description
A	**CH1~16**	Indicating that the channel is being recorded.
B	**HDD**	Indicating that the system is accessing the hard disk.
C	**ALARM**	Indicating that when sensor(s) is/are triggered or motion is detected.
D	**NETWORK**	Indicating that when Network client connects through the network.
E	**BACKUP**	Indicating that USB or DVD-RW storage device is stored images or video.

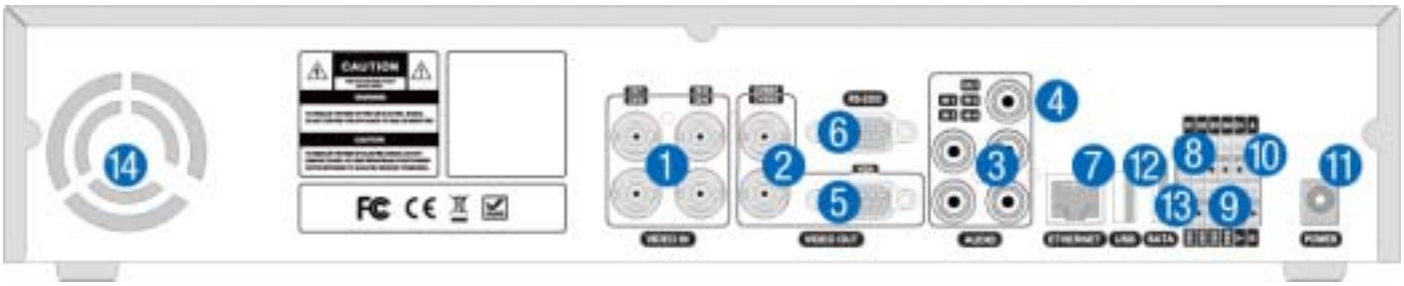
F	**POWER**	Indicating that the system is switched on.

Table 2.1.2. Front panel buttons

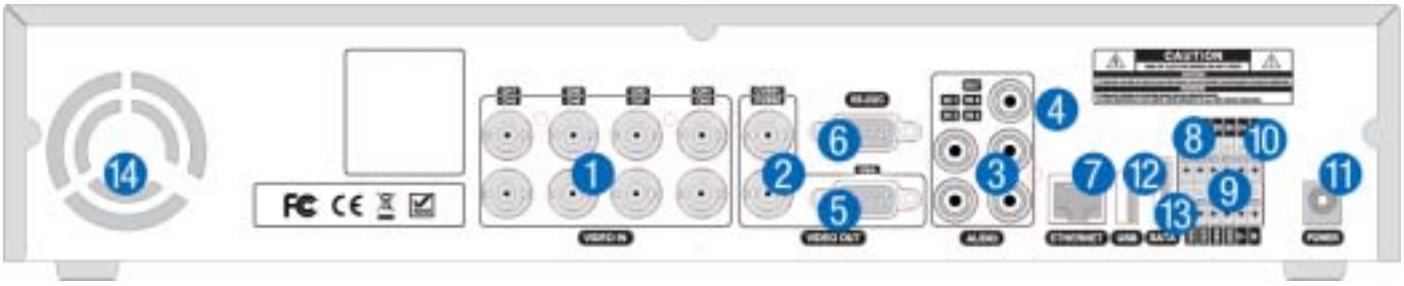
NO	Name	Description
1		Channel keys. For channel 10, press the 0 key. For channel 11, press the +10 and 1 key. For channel 16, press the +10 and 6 key.
2		Press to rewind the footage in playback mode.
3		Press to select audio mode such as SINGLE, MIX and MUTE. MUTE- All of 4 channels. SINGLE- Highlighted channel only. MIX- All of 4 channels.
4		Jump/Step backward. In playback mode, the playback position moves 60 seconds backward.
5		Press to fast forward the footage in playback mode.
6		Press to enable/disable ALARM operation.
7		Jump/Step forward. In playback mode, the playback position moves 60 seconds forward.
8		Press to start or stop manual recording.
9		Press to go to SEARCH menu in live display mode.
10		Press to play/pause the footage in playback mode.
11		Press to enter SETUP menu.
12		Enable/disable the automatic sequence of display of channels in full screen, quad, 9-split display mode.
13		Press to control Pan/Tilt/Zoom operations.
14		Press to capture video in jpeg format in live or playback mode.
15	◀(**LEFT)**	Press to move left or to change the values in Setup mode. It is also used as the number 4 when entering password.
16	▲(**UP)**	Press to move up the menu in Setup mode. It is also used as the number 1 when entering password.
17	▶(**RIGHT)**	Press to move right or to change the values in Setup mode.

		It is also used as the number 2 when entering password.
18	▼(**DOWN**)	Press to move down the menu in Setup mode. It is also used as the number 3 when entering password.
19		Press to select desired menu item or to store the setup value.
20		Press for temporary storage of the changed value or to return to the previous menu screen.
21	**USB Port**	To archive still-image or video into a USB memory or upgrade firmware with USB memory stick, connect a USB memory to the USB terminal.
22	**OPEN /CLOSE**	To open and close the insert tray, press the button.
23	**DVD drive**	To save video, insert a CD-R/DVD-R

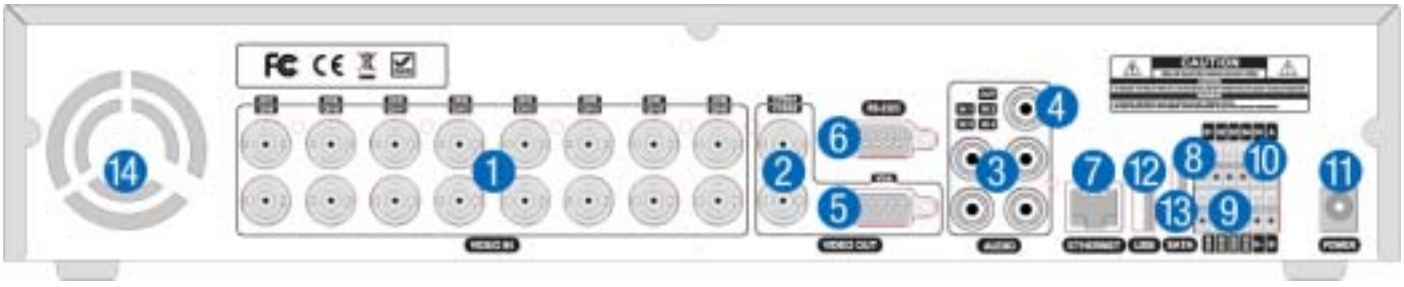
2-2. Rear Panel



N-0440M



N-0840M



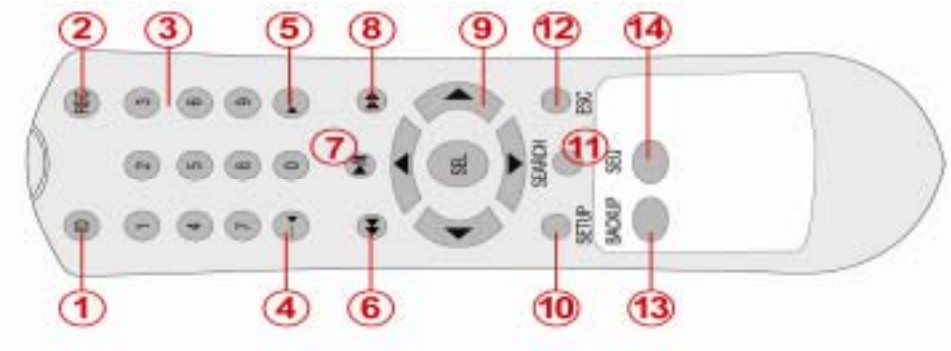
N-1640M

Figure 2.2.1. 16ch Rear Panel

Table 2.2.1. Rear panel connections

NO	Connection	Purpose
1	**VIDEO IN**	16 connectors for video input. (NTSC/PAL)
2	**CVBS**	Spot out 1: Split screens with live images. Spot out 2: One channel screen with an event image.
3	**AUDIO IN**	4 connectors for audio input.
4	**AUDIO OUT**	1 connector for audio output.
5	**VGA**	Connector for VGA monitor.
6	**RS-232**	For engineering use only.
7	**ETHERNET**	RJ-45 connector for LAN connection.
8	**SENSOR IN**	4 connectors for sensor device connection.
9	**ALARM OUT**	1 connector for alarm device connection. Provides simple On/Off switching by using relay. 0.5A/125V, 1A/30V
10	**RS-485**	RS-485 control terminal
11	**POWER SOCKET**	Connect DC12V 5A Adaptor
12	**USB Port**	To archive still-image or video into a USB memory or upgrade firmware with USB memory stick, connect a USB memory to the USB terminal.
13	**e-SATA Port**	1 connector for External SATA
14	**COOLING FAN**	

2-3. Remote control



① **ID:** When a remote control ID number is set in DVR, press it before number.

② **REC:** To start and stop manual recording.

③ **Number:** To select channel (1, 2, 3, & 4) or to enter DVR ID number.

④ **F/REW: During playback -** To move the playback position 60 seconds backward.
During pause - To move the playback position 1 frame backward.

⑤ **F/ADV: During playback -** To move the playback position 60 seconds forward.
During pause - To move the playback position moves 1 frame forward.

⑥ **REW:** To rewind the footage at 1x, 2x, 4x, and 8x speed during playback.

⑦ **PLAY/PAUSE:** To play or to pause the footage in playback mode.

⑧ **FF:** To fast forward the footage at 1x, 2x, 4x, and 8x speeds during playback.

⑨ **Control button:** Press to move the menu items or select channel.

⑩ **SETUP:** To launch SETUP menu.

⑪ **SEARCH:** To go to the search menu.

⑫ **ESC: During setting -** To return to previous menu screen.

During playback - To exit from playback

- System Lock – to lock a system when pressing ESC button for 5 seconds.
- System Unlock – to unlock a system when pressing ESC button for 5 seconds.

⑬ **BACKUP:** To start operations of backup in live or playback mode. (The same function button as CAPTURE on the front panel of DVR)

⑭ **SEQ:** To start auto sequencing of the screen in full screen mode. (Toggle)

3. Setting up the DVR

The following sections detail the initial setup of a DVR.

3-1. Setup – Main Screen

When booting a system at first, the following messages display. After initializing, select a language and set the time.

To enter the setup menu, select a right button of the mouse or press the SETUP button on the remote control.

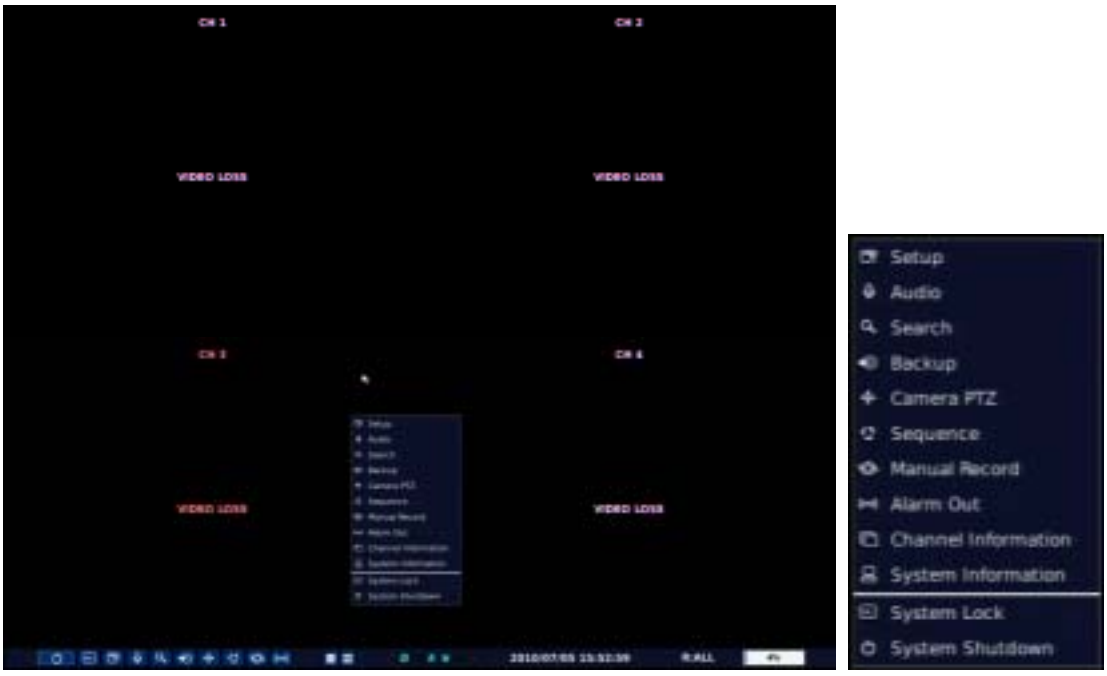


Table 3.1.1. Setup menu tree

Then password input screen will be displayed. User can select a password by pressing a small square box next to a password input box. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu.

- DISPLAY
  - OSD
  - OSD CONTRAST
  - SEQUENCE
  - SEQUENCE DWELL TIME
  - CHANNEL
    - NAME
    - COVERT
    - BRIGHTNESS
    - CONTRAST
    - HUE
    - SATURATION
- RECORD
  - CHANNEL
    - RESOLUTION
    - FRAME RATE
    - QUALITY
    - RECORDING
    - SENSOR RECORDING
    - PRE RECORD
    - POST EVENT RECORD
    - AUDIO
    - SCHEDULE
- DEVICE
  - ALARM OUT
    - SENSOR IN
    - MOTION ON
    - VIDEO LOSS ON
    - ALARM DURATION
    - ERROR ALARM
  - PTZ

        - CHANNEL
        - NAME
        - SPEED
        - ID
    - SPOT OUT
        - SPOT OUT 1
        - SPOT OUT 2
    - CHANNEL
        - MOTION ZONE
        - MOTION SENSITIVITY
    - KEY TONE
    - REMOTE CONTROLLER ID
    - SENSOR
        - TYPE
- STORAGE
    - OVERWRITE
    - DISK FORMAT
    - DISK INFO
    - RECORDING LIMIT
        - RECORDING LIMIT DAYS
- SYSTEM
    - DVR-ID
    - DESCRIPTION
    - LANGUAGE
    - DATE FORMAT
    - SET DATE & TIME
        - DAYLIGHT SAVING
        - SET DATE & TIME
    - CLIENT ACCESS
    - BANDWIDTH SAVING
    - SEND EMAIL
    - NTP
- SECURITY
    - USER AUTHENTICATION (ADMIN, NETWORK, USER1, USER2, USER3)
    - USER PASSOWRD
- NETWORK
    - NETWORK TYPE (DHCP, ADSL, LAN)
    - DDNS
        - DDNS SERVER 1

- DDNS SERVER 2

– NETWORK PORT
  - PORT
  - WEB PORT
  - PORT FORWARD
– NETWORK STREAM
  - FRAME RATE
  - BITRATE

■ CONFIG
– SAVE SETUP TO A USB
– LOAD SETUP FROM A USB
– LOAD DEFAULT
– LOAD FACTORY DEFAULT

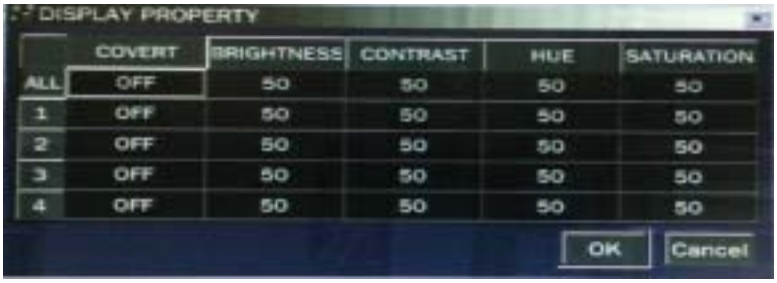
3-2. Setup – Display Mode

Press the SETUP button and select DISPLAY. Then, the DISPLAY menu displays as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

Figure 3.2.1. Display mode setup screen

Table 3.2.1. Menu items in DISPLAY mode setup

Item	Description
OSD	Enable/disable on-screen-display.
OSD CONTRAST	Set the visibility level of the On Screen Display (OSD).(0~100)
SEQUENCE	Enable/disable sequential display of video in full screen mode.
SEQ-DWELL TIME	Set the dwell time of each, quad or 9 channels display in sequential

	display mode.(3-60seconds)
CHANNEL	Select a channel for applying the following settings using the control button (◀ ▲ ▶ ▼). Press SEL button to change the setting value of all channels at once. Press a right button of the mouse control just one time if you want to select an item and please do a double-click if you want to change the value. Once you select an item, then press OK to set value for all channels. (COVERT, BRIGHTNESS,CONTRAST,HUE,SATURATION) 
NAME	Set the channel name. Press SEL button and set the channel name and select OK using the control button (◀ ▲ ▶ ▼). The name can be made by 10 characters at most.
COVERT	Enable/disable display of the specified video channel in live display mode.
BRIGHTNESS	Change the brightness value of the specified channel. (0~100)
CONTRAST	Change the contrast value of the specified channel. (0~100)
HUE	Change the hue value of the specified channel. (0~100)
SATURATION	Change the saturation value of the specified channel. (0~100)

3-3. Setup – Recording Mode

Press the SETUP button and select RECORD icon. Then, the RECORD menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

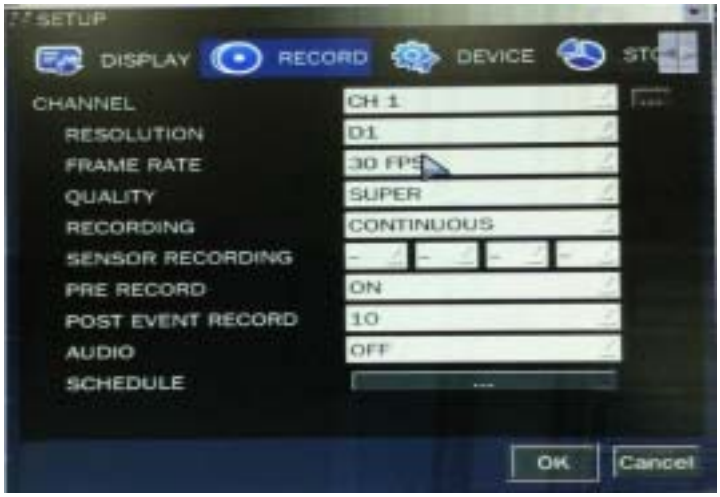


Figure 3.3.1. Recording mode setup screen

Table 3.3.1. Menu items in Recording mode setup

Menu item	Description
CHANNEL	Select a channel for applying the following settings using the control button (◀ ▲ ▶ ▼). Press SEL button to change the setting value of all channels at once. Once you select an item, then press SEL to set value for all channels. (RESOLUTION, FRAME RATE, QUALITY, RECORDING, PRE RECORD and POST EVENT RECORD)
RESOLUTION	Select one type among CIF, Half D1 and D1 using the control button(◀ ▲ ▶ ▼).
FRAME RATE	Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed the maximum frame rates for a specific recording resolution. **Typical values of the maximum frame rate for video are 120/100 fps.**
QUALITY	Select the recording quality for the specified channel. Options are: Network, Standard, High, Superior and Ultra.
RECORDING	Assign the recording mode for each channel. Options are: Continuous, By Motion, By Sensor, By Schedule or Disable.
PRE RECORD	Enable/disable pre-event recording. Pre-event recording time is 5 seconds and only intra-frames are recorded for pre-event recording.
POST EVENT	Set the post event recording time duration for the specified channel.

RECORD	(10~30 seconds)
SENSOR RECORDING	Enable setting up to 4 sensors for the specified channel using the control button (◀ ▲ ▶ ▼).
AUDIO	Enable/disable audio recording for the specified channel. ● Fixed-available on only from channel 1 to channel 4.
SCHEDULE	Set the recording schedule. Press SEL to go to schedule setup screen.

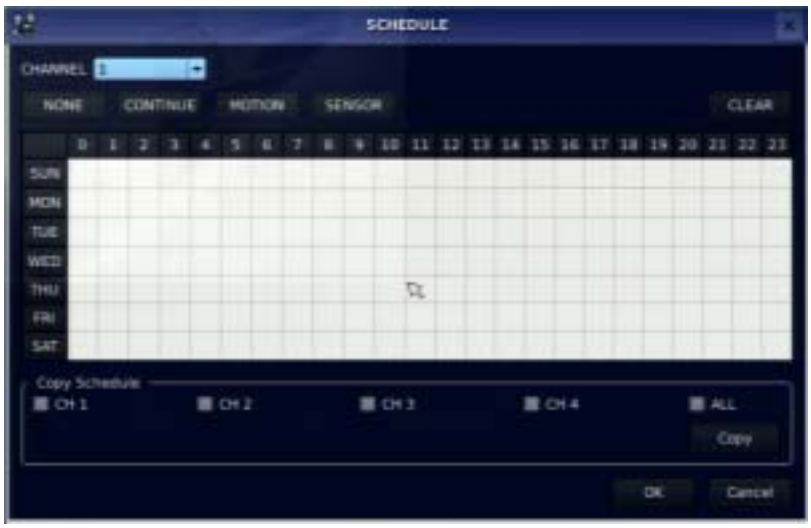
3-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the items using the control button (◀ ▲ ▶ ▼).

[**Channel**]: Select the specific channel.

[**Setup**]: Set up using the SEL button to section under the specific day and time. It can set the all section under the specific day or time at a time when pressing the specific day or time. It is also possible to set up recording modes of various type using a Continue(green color), Motion(yellow color) and Sensor button(red color). It can set easy using a drag-and-drop function of a mouse control.

[**COPY Schedule]**: Set the channel 1 schedule and select COPY using the control button (◀ ▲ ▶ ▼), select CH2 using the control button (◀ ▲ ▶ ▼) and press the SEL button. Then the CH1 schedule is copied to CH2. To return to setup menu screen, press the ESC button.



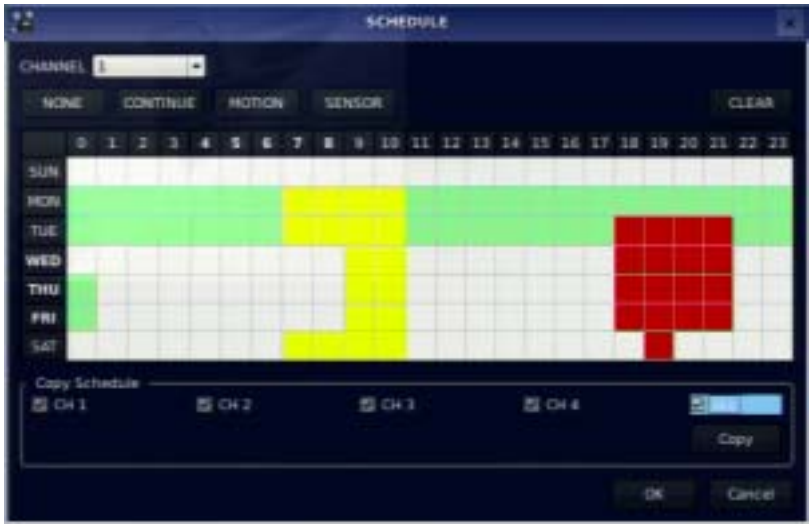


Figure 3.3.2. Schedule recording setup screen

3-4. Setup – Device Mode

Press the SETUP button and enter the password. Select DEVICE icon and press SEL button to enter the setup menu item. Then, the device menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼).To return to setup menu screen, press the ESC button.

Figure 3.4.1. Device mode setup screen

Table 3.4.1. Menu items in Device Setup screen

Item	Description
ALARM OUT	Set the sensor, motion, and video loss for each alarm.
PTZ	Set the PTZ camera speed, number, type and ID.
SPOT-OUT	Set the all details for spot monitoring. It supports 1 spot-out.
CHANNEL	Select specified channel for motion zone setup.
MOTION ZONE	Select either Full Zone or Partial Zone for motion sensing.

MOTION SENSITIVITY	Set the motion sensitivity for the specified channel. Control the motion sensitivity from 1 to 9.
KEY TONE	Enable/disable key tone.
REMOTE CONTROL ID	Select an ID of remote control. 1. Select ID. 2. Press the same number as ID set in DVR on a remote control. 3. Then icon will be displayed on Live screen of DVR that respond to the remote control. The options are from 0 to 99
SENSOR	Select sensor NO from 1 to 4
TYPE	Set the type of sensor for the specified channel. Options are: OFF, N/O (normal open), and N/C (normal closed).

3-4-1. ALARM-OUT

Figure 3.4.2. ALARM-OUT setup screen

Table 3.4.2. Menu item in ALARM-OUT Setup screen

Item	Description
ALARM OUT	Available NO is just one (1).
SENSOR IN	Enable setting up to 1 camera of 4 cameras for each alarm.
MOTION ON	Enable setting up to 1 camera of 4 cameras for each alarm.
VIDEO LOSS ON	Enable setting up to 1 camera of 4 cameras for each alarm.
ALARM DURATION	Set the alarm dwell time from 5 to 60 seconds.
ERROR ALARM	Set the error type for the alarm activation. The options are OFF, ALL, HDD ERROR and VIDEO LOSS.

3-4-2 SPOT-OUT setup

Figure 3.4.3. SPOT-OUT setup screen

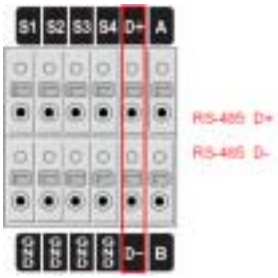
Table 3.4.3. Menu item in SPOT-OUT Setup screen

Item	Description
SPOT OUT	Select the number..
SPOT TYPE	Spot out 1 supports QUAD type and Spot out 2 supports FULL type.
SPOT ON EVENT	Enable/Disable display of the channel when an event is active. In case of Spot out 2, the spot channel displays when event is active.
SPOT EVENT DWELL TIME	Set the dwell time for the display of the event activated channel. (1-10sec)
SEQUENCE	Enable/disable sequential display of spot channel in full screen. If select ON, spot channel selection screen is displayed.
SEQ-DWEL TIME	Set the dwell time for the spot channel display.(1-10sec)
SPOT CHANNEL	Select a channel for spot monitoring. Press SEL and select channel using the control button (◀ ▲ ▶ ▼) and SEL button.

3-4-3 PTZ Setup

To control the PTZ functions of the camera, connect a controller to the RS-485 port.

① Connect the RS-485 cables of PTZ camera to the RS-485 port on the rear panel.



② Press SEL button or double click to enter the menu. Then PTZ menu screen is displayed.

Figure 3.4.4. PTZ Control Setup Screen

Note: For speed dome cameras that support RS-485, connect them directly to the RS-485 port. If the camera is controlled with RS-232C, use an RS-485 to RS-232C signal converter.

On the PTZ control setup screen, you can select or set the protocol type of the camera that is the same as the one installed on the site. If the camera has a specific camera ID, select the camera ID using the control button (◀ ▲ ▶ ▼).

The following options are available on the PTZ setup screen.

CHANNEL (channel number that the PTZ is connected to)

NAME (protocol type)

SPEED (19200, 14400, 9600, 4800, 2400)

ID (0-63)

3-4-4. Motion Zone Setup

Select MOTION ZONE using the control button (◀ ▲ ▶ ▼) and select either PARTIAL ZONE or FULL ZONE using the control button (◀ ▲ ▶ ▼). And press the SEL button.

If FULL ZONE is selected, the motion setting screen is not displayed. Only set the level of sensitivity for MOTION SENSITIVITY.

FULL ZONE: The motion sensor is active on the whole screen.

PARTIAL ZONE: The motion sensor is active in the set detection frame.

Select the sensor detection position using the control button (◀ ▲ ▶ ▼) and press the SEL button.

Then the color of the position which is selected will be changed. Press ESC button to return to the DEVICE setup menu.

Figure 3.4.5. Motion Zone selection screen

3-5. Setup – Storage Mode

Press the SETUP button and select STORAGE icon. Then, the STORAGE menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

Figure 3.5.1. STORAGE setup screen

Table 3.5.1. Menu items in STORAGE Setup screen

Item	Description
OVERWRITE	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
DISK FORMAT	You will have an option YES or NO for the hard drive format. **Caution**: We recommend that you archive any data that you may

	need in the future before you format the hard drive.
DISK INFO	Hard drive information
RECORDING LIMIT	Enable/disable recording limit.
RECORDING LIMIT DAYS	Set the recording limit days.(1- 90 days) When setting to 1 day, the data will remove by the hour.

3-6. Setup – System Mode

Press the SETUP button and select SYSTEM icon. Then, the SYSTEM menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

Figure 3.6.1. SYSTEM Setup Screen

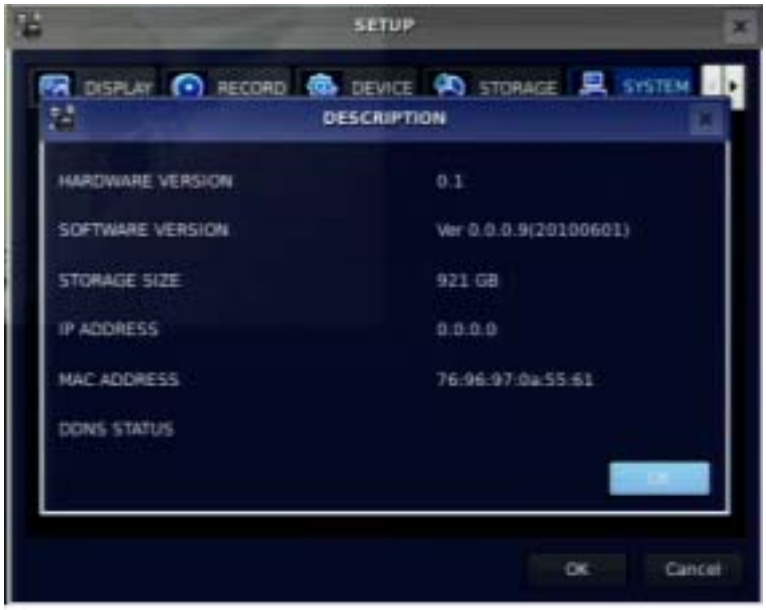
Table 3.6.1. Menu items in SYSTEM Setup screen

Item	Description
DVR ID	Press the SEL button and select DVR ID using the control button (◀ ▲ ▶ ▼), and press SEL button. Press OK to apply the selected DVR ID.

SPACE / Caps Lock(Select either Capital or Lower letter)
BS(Back space: Erase previous character) / Clear(Erase all characters)
The DVR ID can be made by 10 characters at most.

DESCRIPTION

Press SEL button to view system information.
(Hardware version, Software version, Storage size, IP address, MAC address and DDNS status.)



LANGUAGE

Select the display language using the control button (◀ ▲ ▶ ▼). Once a language is selected, the display language changes.
(English, Korean, Japanese, SP Chinese, TR Chinese, Czech, Finnish, French, Greek, Italian, Dutch, Norse, Russian, Spanish, Turkish, Polish, Danish, Persian, Croatian, German, Portuguese, Portuguese (Brazil), Arabic)

DATE FORMAT

Select the date display format using the control button (◀ ▲ ▶ ▼). Options are:
(YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY)

SET DATE&TIME Move the cursor to the display date and time using the control button (◀ ▲ ▶ ▼) and press SEL button to set the present date and time. Press ESC button to return to SET DATE & TIME setup menu.

DAY LIGHT SAVING

Select DAYLIGHT SAVING using the control button (◀ ▲ ▶ ▼),

Select the appropriate daylight saving time zone using the control button (◀ ▲ ▶ ▼).

If choosing EU or OTHERS, set the applicable conditions.

The options are:

OFF

USA

EU

OTHERS

1. OFF: Daylight saving is not set.
2. USA: Applies the USA daylight saving time.
3. EU: Applies the EU daylight saving time.
   - Select the GMT AREA using the control button (◀ ▲ ▶ ▼).
   - Set the time difference with the standard time using the control button (◀ ▲ ▶ ▼).
4. OTHERS: If the time zone is neither USA nor E, set the start and end date of the daylight saving period.
   - Select BEGIN or END using the control button (◀ ▲ ▶ ▼) and press the SEL button.
   - Select the item using the control button (◀ ▲ ▶ ▼), select the setting value using the control button (◀ ▲ ▶ ▼) and press the ESC button to return to SET DATE & TIME setup menu.

	CAUTION: - Do not set the start time to 23:00 for DLS. - DLS can't be applied if the date of BEGIN and END is the same.
CLIENT ACCESS	Enable/Disable remote access through network client software.
BANDWIDTH SAVING	Enable/Disable only key frame transmission. "ON" mode is favorable for use of low network bandwidth. Mostly, set "OFF" for normal use.
SEND EMAIL	Enable/disable the send e-mail function.(ON/OFF) **TRANSMISSION MODE:** Sending an image only of the channel that triggered the alarm when an alarm event is triggered. **IP NOTIFICATION:** Enable/disable sending e-mail when the IP address of your DVR is changed. **EVENT ALARM:** Enable/disable sending e-mail reports on the channel that triggered the alarm when an alarm event is triggered. **MAIL TO:** Enter the appropriate email address to enable sending e-mail reports using a virtual keyboard. **MAIL SERVER:** Enter the appropriate mail server information to enable sending daily e-mail reports using a virtual keyboard. **ID:** To set the connection user ID for the mail server using a virtual keyboard. **PASSWORD:** To set the connection password for the mail server using a virtual keyboard. **MAIL FROM:** To set the mail address sent to the destination host using a virtual keyboard.
NTP	NTP is an abbreviation for Network Time Protocol, which is for synchronizing the clocks of computer systems over variable-latency data networks.

PRIMARY SNTP SERVER: Input the address of the primary NTP time server.

SECONDARY SNTP SERVER: Input the address of the secondary NTP time server.

TIME ZONE: Greenwich Mean Time(GMT) is a term originally referring to mean solar time at the Royal Observatory, Greenwichin London. Because NTP synchronizes with Greenwich Mean Time(GMT) regardless of geography, users must set their own time difference. (Ex.KOREA GMT+09:00)

CONNECTON MODE: Select NTP time server connection mode.

INTERVAL: Synchronize the clock by hours which is set on the connection period menu.

TIME: Synchronize the clock at the time daily which is set on the connection period menu.

CONNECTION PERIOD: 1~24

3-7. Setup – SECURITY Mode

Press the SETUP button and select SECURITY icon. Then, the SECURITY menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

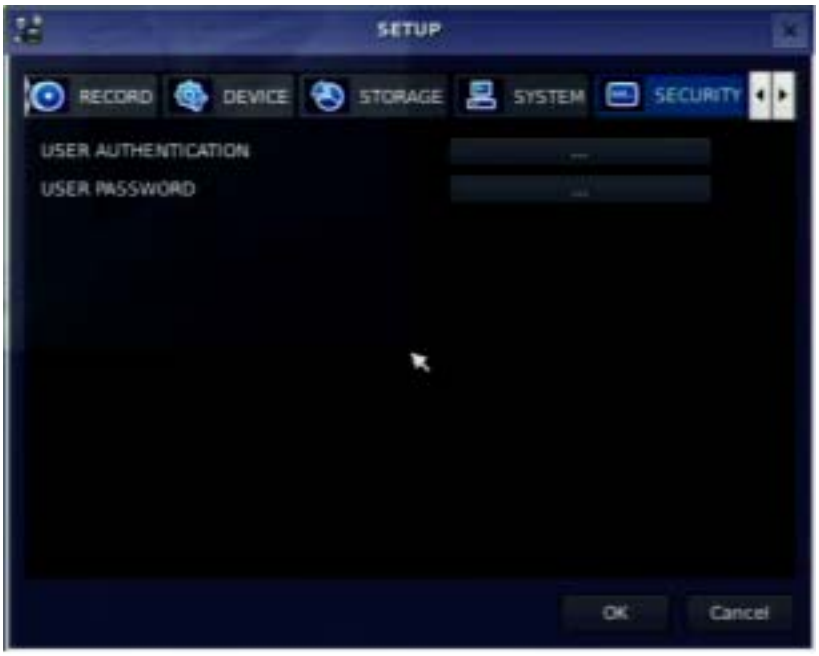


Figure 3.7.1. SICURITY setup screen

Table 3.7.1. Menu Items in PASSWRORD Setup Screen

Item	Description
USER AUTHENTICATION	Admin only can connect to the menu. **PASSWORD CHECK:** Select either V or nothing for the functions such as **Setup, Playback(PB), PTZ, Record OFF(R/OFF), and Network** V check: Ask for a password when the given function is selected for all users. nothing: Does not ask for a password when the given function is selected for all users. The default value is that there is the password check. **ADMIN, NETOWRK, USER1, USER2, USER3:** V check: It means the user can access to the function. nothing: It means the user cannot access to the function.

USER PASSWORD	Options are ADMIN, NETWORK, USER1, USER2 and USER3. Select USER PASSWORD using control button (◀ ▲ ▶ ▼) and press SEL button. Select user type using the control button (◀ ▲ ▶ ▼) and SEL button. Enter the current password and select OK. Enter the new password and select OK. Enter the same password again to confirm and select OK. Then the message “PASSWORD CHANGED” is displayed. The factory default password is **1111**.

When user set to use this function, they can see a user login window. Then, user can select one of user types (ADMIN, USER1, USER2, USER3) using the control button (◀ ▲ ▶ ▼) on the remote control and press SEL button. Then password input screen will be displayed. User can select a password using the control button (◀ ▲ ▶ ▼) and select OK to enter the setup menu. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in the SECURITY setup menu.

3-8. Setup – Network Mode

Press the SETUP button and select NETWORK icon. Then, the network menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

Figure 3.8.1. NETWORK setup screen

Table 3.8.1. Menu items in Network Setup screen

Item	Description
NETWORK TYPE	Select a type of network connection. Options are: DHCP, ADSL, LAN Note. Other parts of the network setup screen change depending on what network type you select.
DHCP	DVR automatically get IP varying from time to time from network and does not therefore need to be set.
ADSL (PPPoE)	ID: Registered ID is necessary for ADSL connection. Password: Registered password is necessary for ADSL connection.
LAN	IP: Register IP address that is assigned for DVR. Gateway: Register Gateway that is assigned for DVR. Subnet Mask: Register Subnet Mask that is assigned for DVR.
DDNS	Enable/disable using domain name address through DDNS server. “ON” mode, DDNS server name appears for domain registration. **DDNS 1**: Select one type among the following three DDNS server. <USA> www.ddnscenter.com <Korea> www.okddns.com <Others> www.bestddns.com **DDNS 2**: Select this type when wants to use other general-purpose DDNS Server. **DDNS INTERVAL**: Set the connection interval (5-60minutes)
NETWORK PORT	Set a proper port number for connecting to network.
PORT	Port number (Default: 5445)
WEB PORT	Web Sever Port number (Default: 80)
PORT FORWARD	Set the port forwarding for connecting to network.

NETWORK STREAM	Set the value for network streaming.

3-8-1. Network Types

3-8-1-1. DHCP

An IP address is automatically assigned by the DHCP server, which automatically assigns IP address and other parameters to new devices.

When ADSL or other network being used adopts variable IP method, not fixed IP. This option is used as a way to automatically get IP address.

Figure 3.8.1. Network setup screen – DHCP

3-8-1-2. ADSL (PPPoE)

To use this ADSL (PPPoE) function when the network type connected DVR is using PPPoE method.

If ADSL type is not using inputting IP and Password like VDSL or if DVR is installed in IP sharer, a user can not select this function. In this case, a user should select DHCP or LAN.

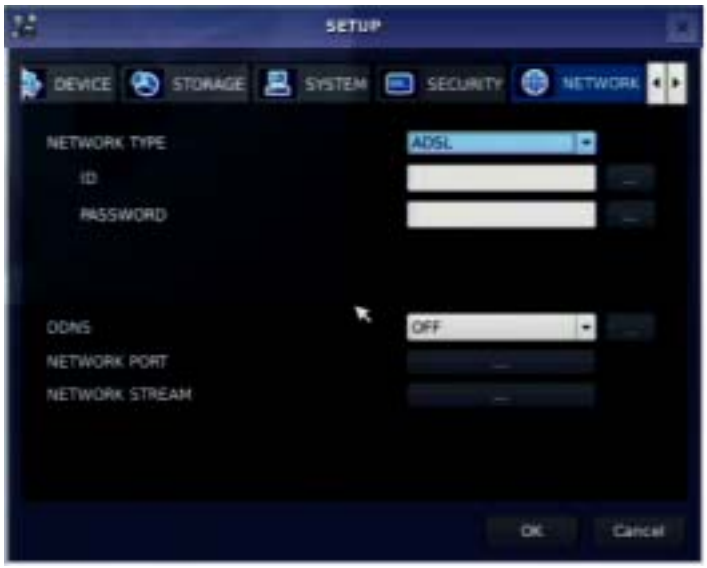


Figure 3.8.2. Network setup screen – ADSL

Table 3.8.1. ADSL

Item	Description
ID	The user ID for the ADSL connection
PASSWORD	The password for the ADSL connection

3-8-1-3. LAN

1. For the use of fixed IP.

(See your network administrator if you do not have this information)

2. When DVR is installed in IP sharer that is connected with ADSL, a user can assign fixed IP to DVR from IP sharer itself using “DMZ” function out of such sharer.

Input IP set in DMZ on “IP” field and Gateway of ADSL modem on “Gateway” field. Similarly, for Subnet Mask, DNS address, input relevant values in IP sharer.

Figure 3.8.3. Network setup screen – LAN

Table 3.8.2. LAN

Item	Description
IP	The fixed IP address of the DVR unit.
SUBNET MASK	The subnet mask for the LAN
GATEWAY	The IP address of the Gateway
1st DNS	The address for the DNS server
2nd DNS	The address for the DNS server

3-8-2. DDNS

User can use the function to connect to a network with a domain name. When it selects a Sever 1, user can select one type among three DDNS Servers which be supporting for free. (okddns.com for Korea, ddnscenter.com for USA and bestddns.com for other area including EU) The DDNS interval can be set from 5 to 60 minutes. To connect to a network with a domain name, user also has to register a MAC address and create a unique domain name to http://www.bestddns.com, http://www.okddns.com or http://www.ddnscenter.com. Please refer to page 90 for the detail of the registration.

Figure 3.8.4. Network setup screen – DDNS Server 1

If user wants to use other general-purpose DDNS Server, select a Sever 2. Then, user has to input the server name, ID and password using a virtual keyboard.

Figure 3.8.5. Network setup screen – DDNS Server 2

3-8-3. Network Ports

When you connect one or more DVRs to a network through an IP sharing device, each device must have a unique TCP port number for access to each unit from outside the LAN. Also, the IP sharing device must be configured for port forwarding so when each port is accessed on the IP sharing device, it will forward to the appropriate DVR.

Note: This port number is listed next to the Port menu option in the Network Setup screen. If you plan to access the DVR units only from within the same LAN, the TCP port does not have to be changed.

Note: Port Forward function will be supported to the next version.

Figure 3.8.6. Network setup screen – Network Port

Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live channels and storage channels. User need to open 2ports numbers on the router; the DVR port number 5445 and the WEB port number 80.

If this port is not opened properly, user can not access DVR beyond a router.

3-8-4. Network Stream

User can set the frame rate and the bit rate for a network stream classified by channel. Total frame rate is CIF 120fps/100fps (NTSC/PAL). The bit rate can be set one out of 128, 256, 384, 512 and 768.

Figure 3.8.7. Network setup screen – Network Stream

3-9. Setup - CONFIG Mode

Press the SETUP button and select CONFIG icon. Then, the config menu is displayed as picture below. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu

item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

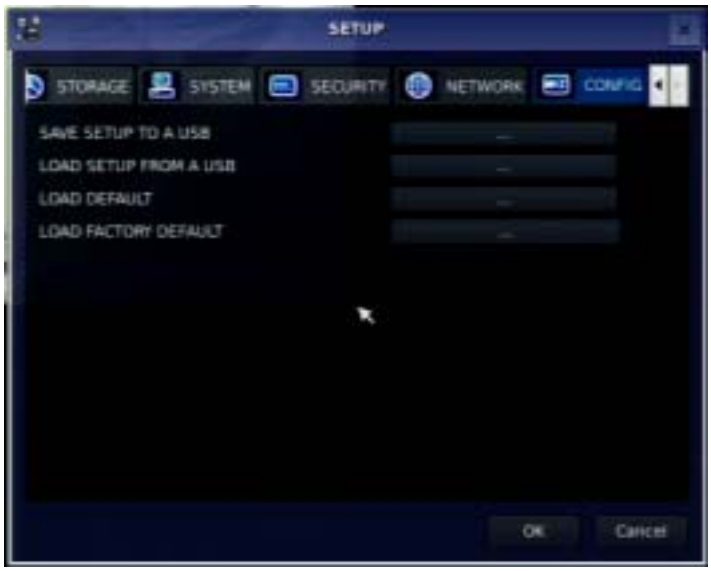
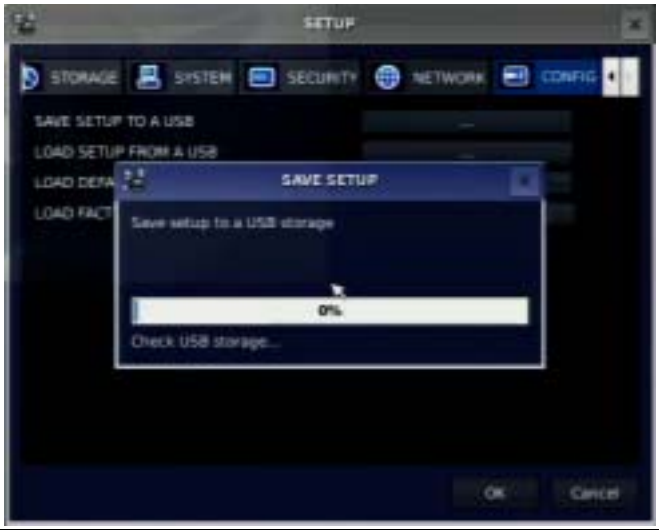
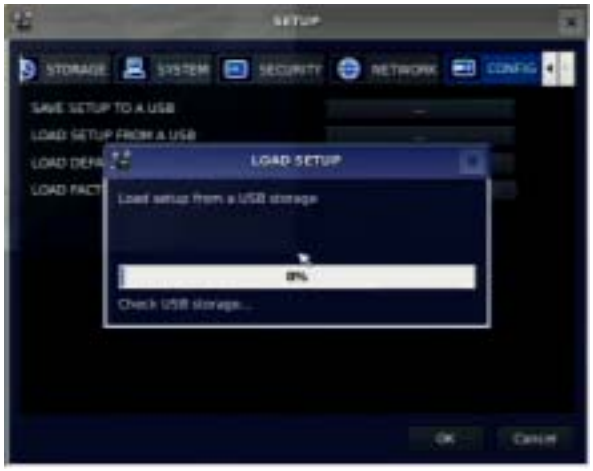
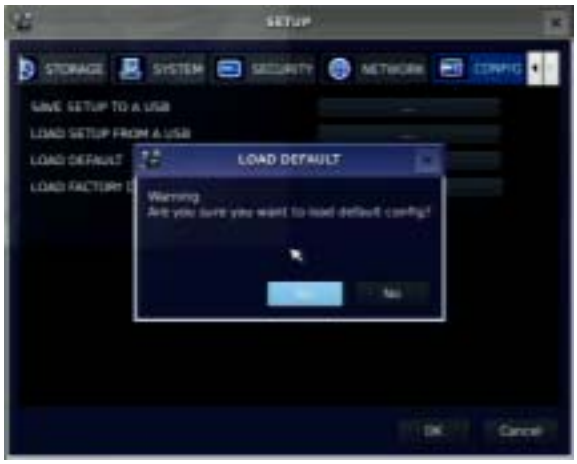


Figure 3.9.1. Config setup screen

Table 3.9.1. Config setup

Item	Description
SAVE SETUP TO A USB	User can save the current configuration (Setting values) of DVR to the USB memory stick. Put the USB stick on the front panel and press SEL to start the saving process. 
LOAD SETUP FROM A USB	User can upload the configuration of DVR to another DVR using the USB Memory stick. Put the USB stick on the front panel and press SEL to start the loading process.



LOAD DEFAULT	Select ON to reset the system to the default settings.  (The follow settings such as **Language, DVR ID, Security User Authentication, Security User P/W, Date format, DLS settings, Network settings, HDD overwrite, Limit recording, HDD serial number, and HDD ERROR time** will not be included.)
LOAD FACTORY DEFAULT	Select ON to reset the system to the factory default settings.

3-10. Saving Setup

To preserve the setup values that you have changed, select YES.

Figure 3.10.1. SAVE SETUP screen

4. Live, Search and Playback

4-1. Live Viewing Screen

In the Live screen, video inputs from the cameras are displayed as they are configured in the Display Setup screen. Various on-screen display (OSD) symbols, which indicate the status of the DVR, are described in Table 4.1.1.

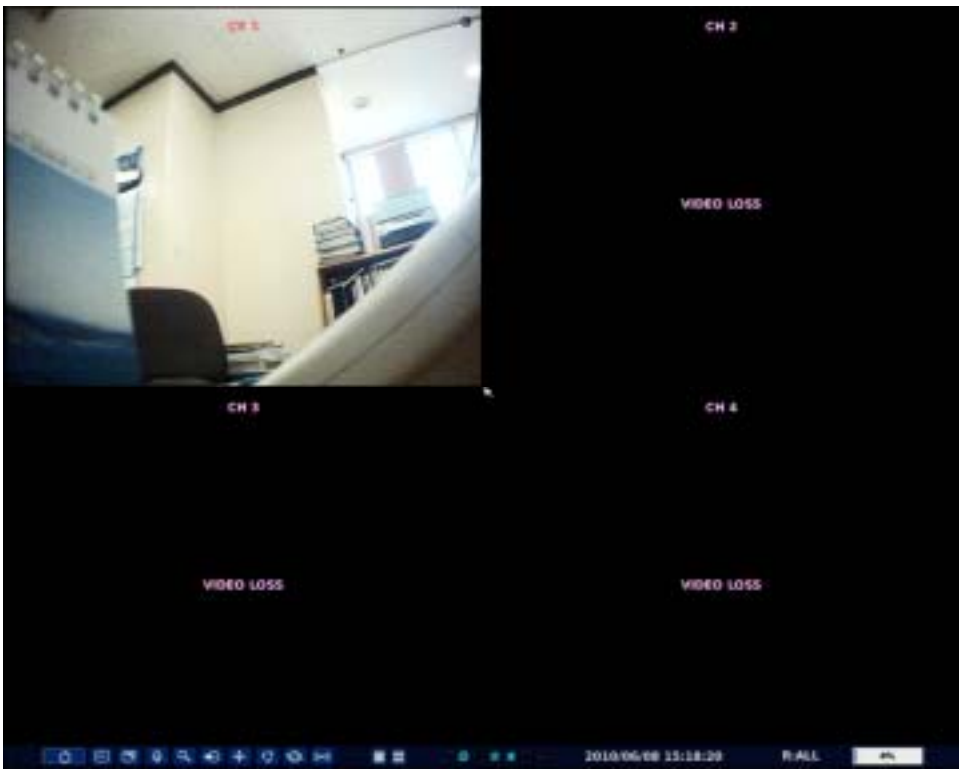
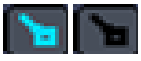
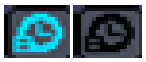
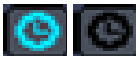
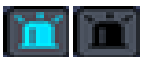
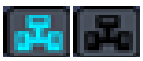
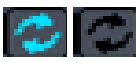


Figure 4.1.1. Live Viewing Screen

Table 4.1.1. Status Indicator Icons in Live Viewing Screen

Icon	Description
	Power On/Off button.
	Lock/Unlock Setup button.
	Setup button. Click this button to go to a setup menu.

	Audio button. Click this button to set an audio reception type; Audio Mute, just 1 channel or 4 channels. To set just 1 channel, select a specific channel on the live screen at first.
	Search button. Click this button to go to a search menu.
	Backup button. Click this button to do a back-up.
	PTZ button. A PTZ control window displays when it clicks this button.
	Sequence button. Click this button to use a sequence function.
	Manual Record button. Click this button to record at once.
	Alarm-out function On/Off button. An alarm is stopped and an alarm setup lamp is right out when it clicks this button during the alarm is in progress.
	Click the split screen icon to change the current split screen mode using the mouse or SEL button.
2009/04/14 17:23:40	Displays the current date and time.
R:A	Remote control ID display. If a remote ID is not set, the message “A(all)” is displayed.
	Displays the amount of recording on the hard disk from 0-99%.
	Indicates that HDD is recycled.
	Continuous recording in progress.
	Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress.
	Indicates that the lock is set. To
	Audio mute. To set audio mute, press the Audio button on the front panel.
	Single audio display. To set audio single for highlighted channel only, press the Audio button on the front panel.
	To mix audio display, press the Audio button on the left side.
	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.

	Indicates that alarm output is activated.
	Alarm indicator. When there is an alarm (sensor or motion alarm) in the video channel, this icon will be highlighted bright red.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.

4-2. SEARCH Screen

To enter the search screen, select SEARCH menu on the screen using the mouse or press SEARCH icon on live screen.

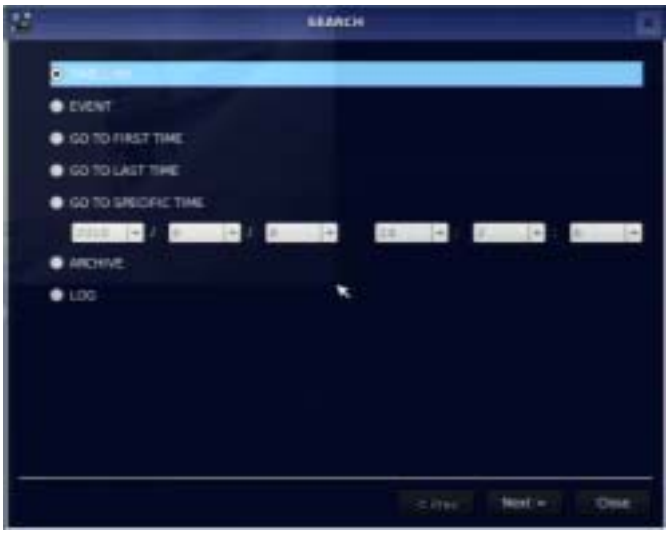


Figure 4.2.1. Search Screen

There are 7 ways of search menu such as TIMELINE, EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE and LOG on the screen.

4-2-1. TIME-LINE Search

The TIME-LINE search window is used to find the stored video by using the time line bar.

When it clicks a Timeline menu, user can see a calendar which has recording data. Select a specific date and time. Use a drag-and-drop function a remote control. User can select a specific minutes using a button in the above red box. Press a PLAY button after setting a specific time. Press the ESC to return to the SEARCH window.

4-2-2. Event Search

The Event Search window is used to find stored video.

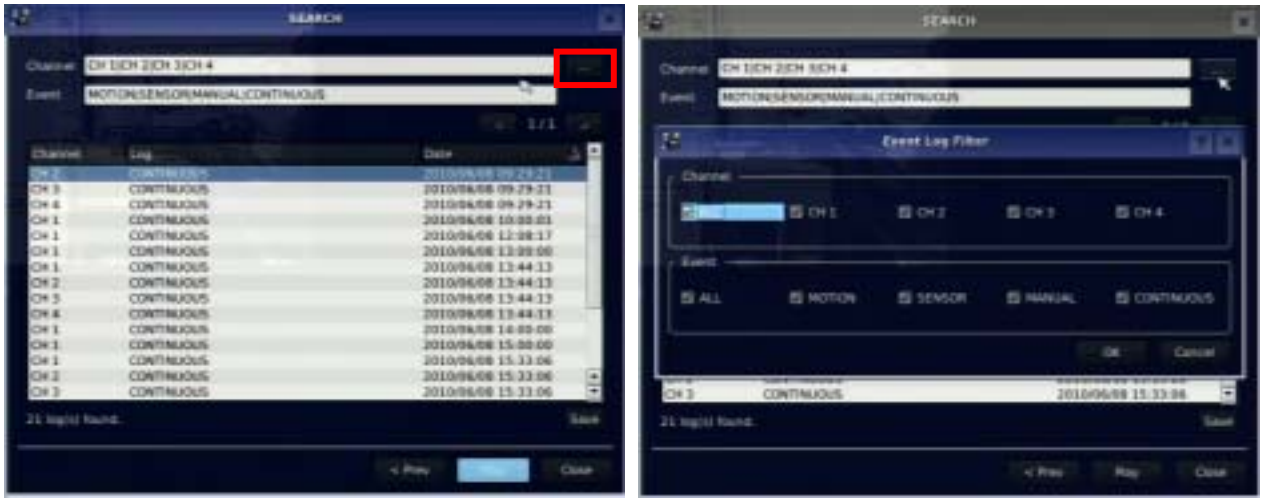


Figure 4.2.2. Event Search screen

When it clicks an Event menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. Press a PLAY button to playback the data or a SAVE button to save the data at once after selecting a specific data. User can find a data of the specific channel and event using a button in the above red box. Press the ESC to return to the SEARCH window.

4-2-3. Go To First Time

You can access from the oldest recorded data on the DVR hard drive by selecting GO TO FIRST TIME on the SEARCH window. Press the ESC to return to the SEARCH window.

4-2-4. Go To Last Time

You can access from the last minute recorded data on the DVR hard drive by selecting GO TO LAST

TME on the SEARCH window. Press the ESC to return to the SEARCH window.

4-2-5. Go To Specific Time

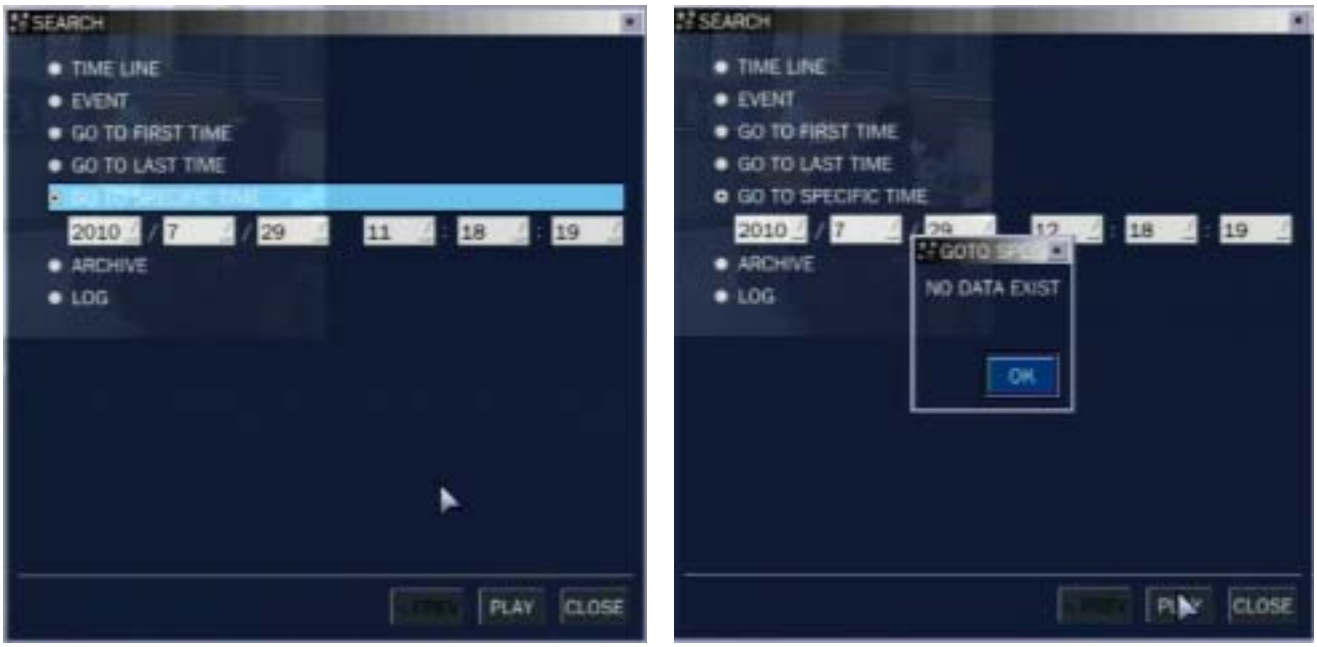


Figure 4.2.3. Go To Specific Time

User can search for video data from a specific instance by setting the date and time in the Go To Specific Time menu. Use the control button (◀ ▲ ▶ ▼) to change the date and time value and press the PLAY button after setting. If there are not video data in the set date and time, No Data Exist message displays.

4-2-6. Archive Search

The ARCHIVE Search window is used to find previously stored video or images.

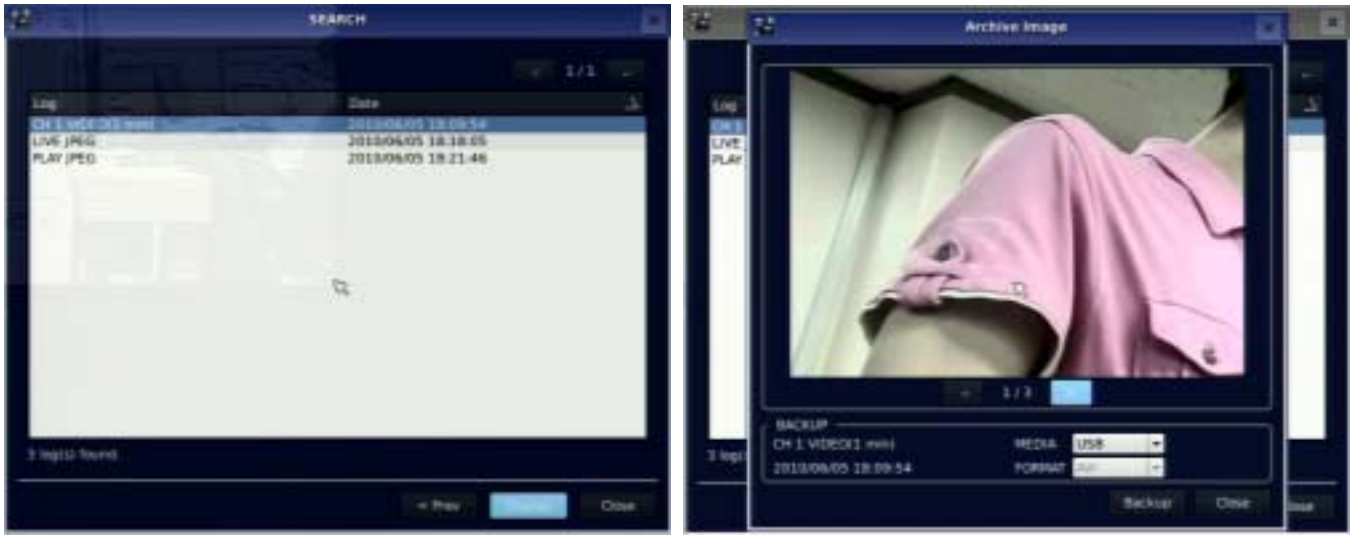


Figure 4.2.4. Archive Search Screen

When it clicks an Archive menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. When it presses a Display button, the still image or the first frame of the selected video is opened and user can save the data.

4-2-7. Log Search

You can access the LOG list search screen by selecting LOG on the SEARCH window.

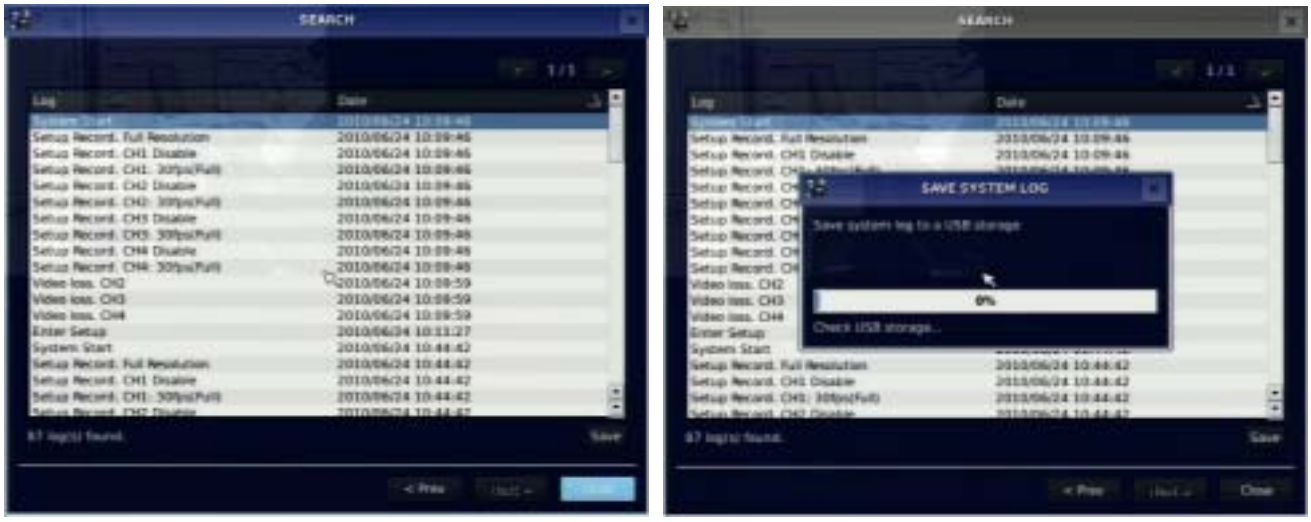


Figure 4.2.5. Log Search Screen

When it clicks a Log menu, user can see a calendar which has recording data. Select a specific date and press NEXT button. Then user can see all log data. Press SAVE button to save the data and then the data is saved to text file format.

4-3. Play mode

During playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to the SEARCH screen by pressing the ESC button of a remote control.

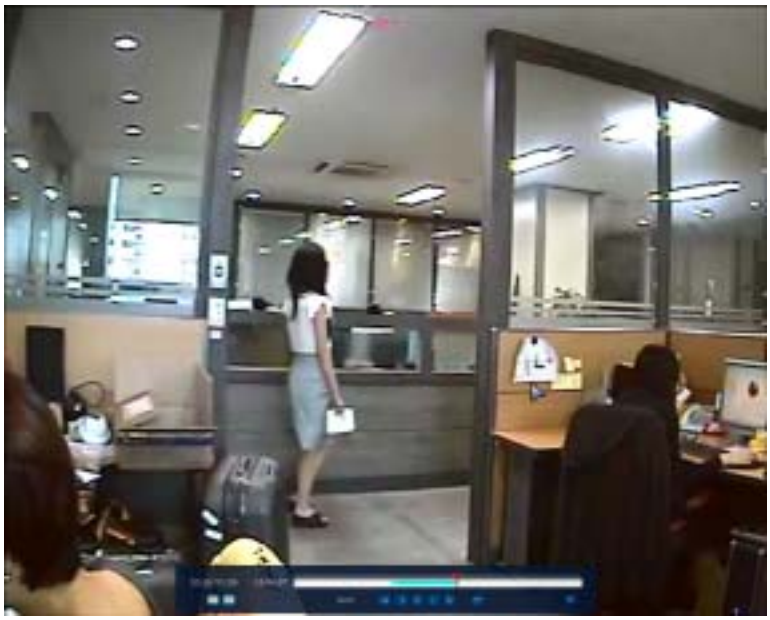


Figure 4.3.1. PLAY Mode Screen

Table 4.3.1. Button functions in PLAY Mode

Button	Description
	Return to the previous menu screen, search window, or exit from the Menu
◀◀	Press to rewind the footage at 1x, 2x, 4x, and 8x speeds. Reverse playback speed is shown as -1x(normal), -2x (2 times normal), -4x (4 times normal), and -8x (8 times normal) at the bottom right of the screen.
--◀	Jump/Step backward. The playback position moves 60 seconds backward.
▶/ II	Press to play or pause recorded video.
▶--	Jump/Step forward. Playback position moves 60 seconds forward.
▶▶	Press to fast forward the footage at 1x, 2x, 4x, and 8x speeds. Playback speed is indicated as +1x, +2x, +4x, and +8x for normal, twice, 4 times, and 8 times of the regular speed at the bottom right of the screen.
	Press to backup the video.

5. PTZ Control

To control the PTZ functions of the camera, select PTZ menu on the screen using the mouse. Select the item you wish to control the PTZ camera and control them using the control button (◀ ▲ ▶ ▼). Please refer to the table 5.1. for the control.

Table 5.1. Button Functions in PTZ Control

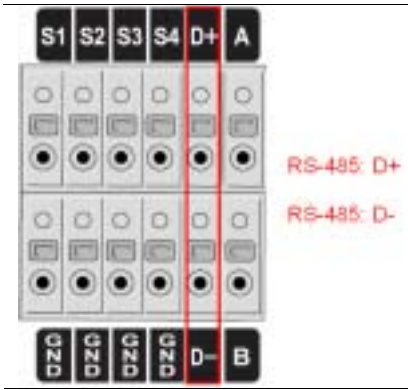
Item	Description
INITIALIZE	Initialize the PTZ settings of the selected camera.
PAN / TILT	Select PAN/TILT using the control button (◀ ▲ ▶ ▼) and press SEL button. Adjust the tilt(UP/DOWN) / pan(LEFT/RIGHT) position using the control button (◀ ▲ ▶ ▼).
ZOOM / FOCUS	Select ZOOM/FOCUS using the control button (◀ ▲ ▶ ▼) and press SEL button. Adjust the zoom(UP/DOWN)/focus(LEFT/RIGHT)position using the control button(◀ ▲ ▶ ▼).
OSD	Select the OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the ESC button to return to the main

Figure 5.1. PTZ Control Screen

	menu. Press the PTZ button to escape from the OSD menu.
AUTOSCAN	Press the right key (▶) on the control button to start auto scan Press the left key (◀) on the control button to stop auto scan.
PRESET	Select the PRESET and press the left key (◀) on the control button. Then, number input window will appear. Set the number (3 digits) using the number key and press the SEL to set the preset number for the current position. Press the right key (▶) on the control button and set the number (3 digits) to go to the preset number.
TOUR	Select the TOUR and press the right key (▶) on the control button. Then, number input window will appear. Set the number (1 digit) using the number key and press SEL to make the group number work. Press the left key (◀) on the control button to stop tour. User can set the preset number in the tour group of the OSD menu.
NUMBER	Available only on the TOUR and PRESET menu.
	Press the ESC button to return to the main menu.

- **Preset/ Tour/ OSD/ Autoscan function are available on the specific model AP8777 and PMA-200.** (Select it in the NAME of PTZ setup menu)

Table 5.2. Description of RS-485 port

	Data +
	Data -

6. Back up

6-1. Still Image backup onto USB flash memory

Still images can be captured and archived onto the USB stick or hard drive in live mode or while playing back recorded video. In live mode, press the BACKUP button to launch the archive function or select BACK UP menu on the screen using the mouse.

1. Select a specific channel which wants to backup on live screen.
2. When you press BACKUP button, the archiving screen will display as Figure 6.1.1.
3. Once you press Backup button, the system will start to archive the data to the selected media.

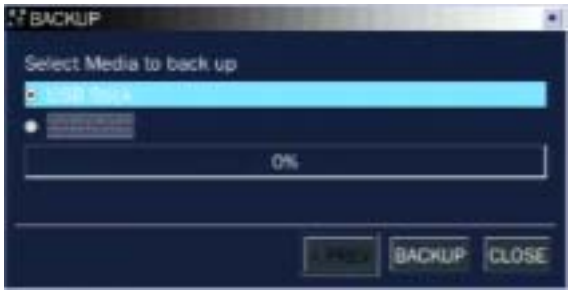


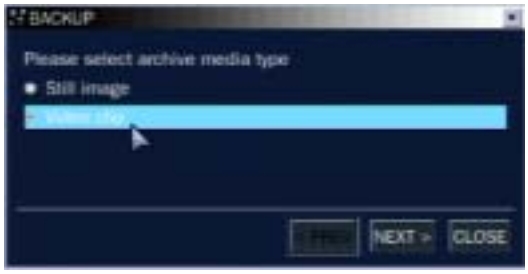
Figure 6.1.1. Still Image Archiving and Backup Screen

NOTICE For a backup using a USB stick, a format of the USB stick has to be set to FAT32.

6-2. Video backup onto USB flash memory

Video can be captured and archived onto the USB stick or hard drive while playing back recorded video.
In playback mode, press the BACKUP button to launch the archiving function.

1. When you press BACKUP button, the DVR will ask whether to archive a Still Image or Video clip.
2. If the user selects VIDEO, the DVR will ask for the channel, file format and the setting of the archiving duration. NSF format will be supported to the next version.
3. If the user sets the channel, file format and duration, the DVR will ask which media you will take for archiving.
4. Once you select the media, the system will start to archive the data to the selected media.



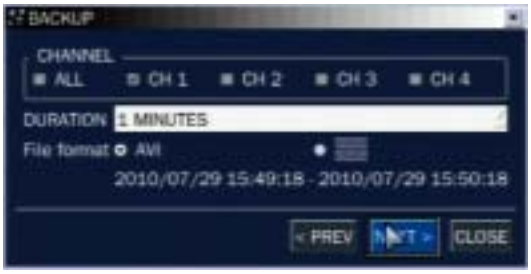


Figure 6.2.1. Video Archiving and Backup Screen

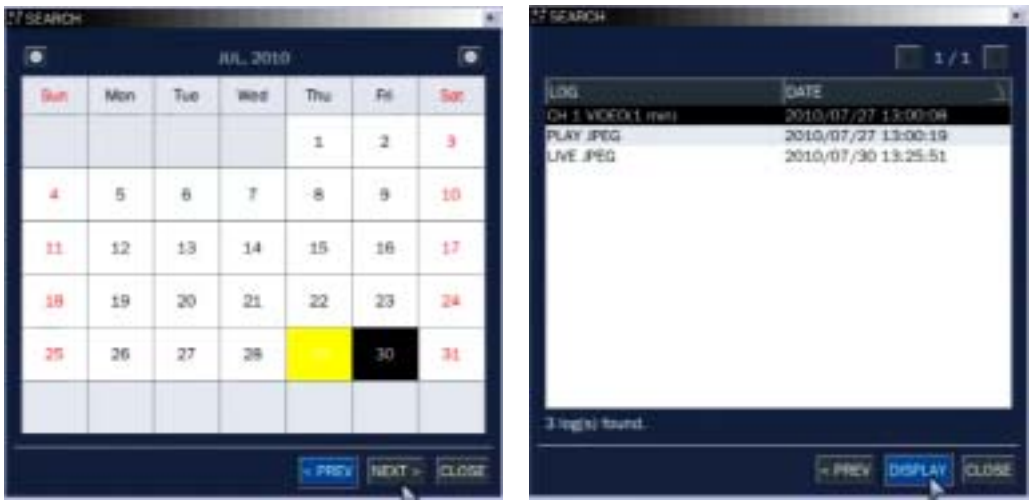
The DVR will convert the corresponding portion of the video into an AVI file.

6-3. Transferring still images or video from the ARCHIVE list

The stored data onto hard drive will be found in the ARCHIVE list in SEARCH window.

User can back up still images or video into the storage device from the ARCHIVE list.

1. Select the date to begin searching and navigate through the days using the control button (◀ ▲ ▶ ▼).
2. Once you have selected the date, press NEXT button to open the list of stored data.
3. Use the control button (◀ ▲ ▶ ▼) to scroll through the on-screen listings.
4. Select a list of stored events that happened previous to or after the current selection.
5. Once the desired event has been selected, press NEXT button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press CLOSE button to return to the SEARCH window.



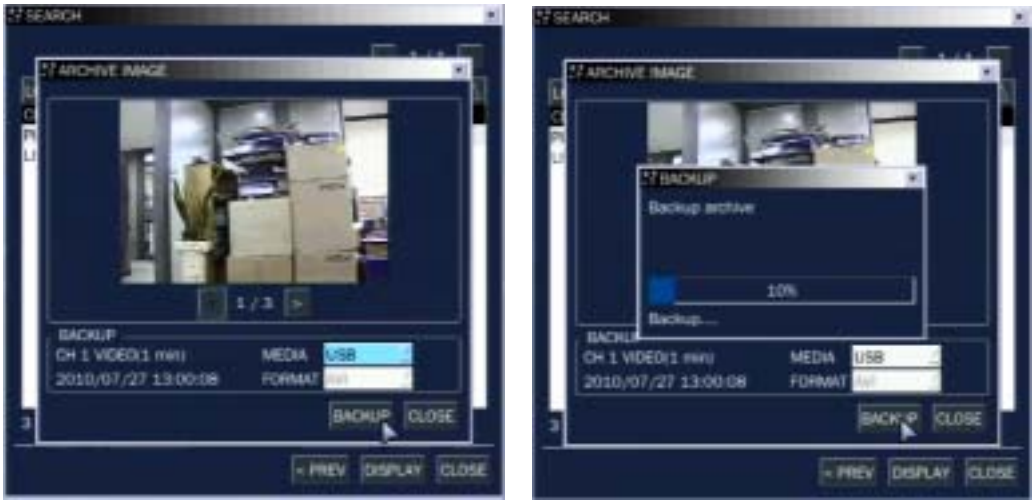
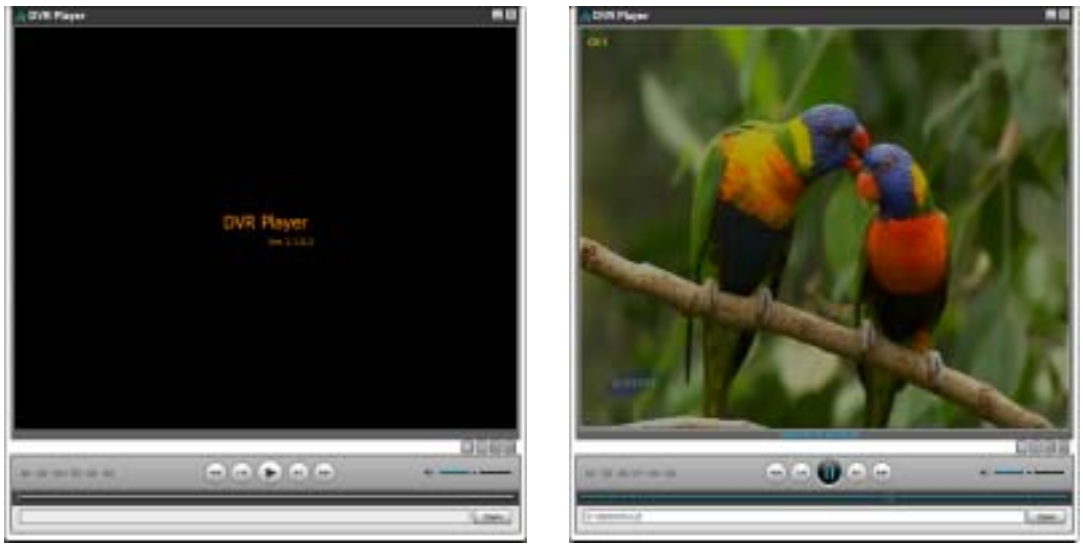


Figure 6.3.1. Archive Search Screen

6-4. Playback of Backup Video

- AVI format: AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video. If the video cannot be played with standard video software, install FFDShow (Codec)from the supplied CD-ROM.
- NSF format: NSF format video can be played back by the player (the DVR player) that the DVR copies on USB thumb drive with video. This format will be supported to the next version.
  Three files are copied on USB thumb drive
  - NSF file: NSF format video file.
  - SMI file: Title file of date and time.
  - PLAYER: Exclusive video viewer.



7. Upgrading Firmware

In order to upgrade, the firmware upgrade file must first be downloaded and copied into the USB memory stick. Create a new folder in the USB memory stick and name it “upgrade”. Copy the firmware upgrade file “apph_xxxxxx.bin” into the “upgrade” folder.

NOTICE

The folder on the USB memory stick must be named **“upgrade”**.

After the firmware upgrade file is copied into the USB memory stick, connect the USB memory stick to the USB port on the front panel and do the followings:

1. Press the SETUP button.
2. Go to SECURITY setup menu and USER PASSWORD. Please select ADMIN using the control button (◀ ▲ ▶ ▼).
3. Enter the password as “**12341234”**, and press the OK button.
4. The TEST MODE screen “Diagnostics Vx.xx” will appear.
5. Select USB Upgrade. Then the upgrading will start automatically.
6. After the upgrade is completed, select Boot Application to reboot DVR.

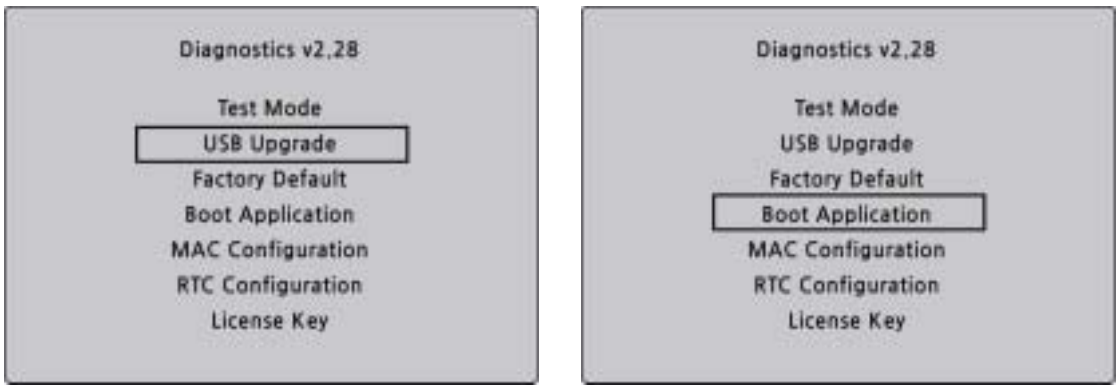


Figure 7.1. Engineering mode screen

8. Network access using the Exclusive network viewer, UMS single

The DVR provides a live remote monitoring feature. Remote monitoring requires installation of the network viewer on your PC.

NOTICE

In a high bandwidth network, a maximum of four users can access one DVR simultaneously.
In a low bandwidth network it is recommended that only one user access the DVR at a time.

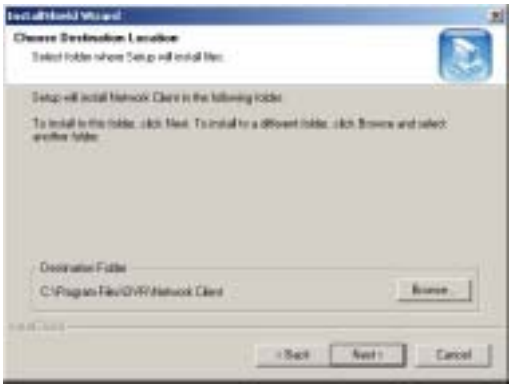
8-1. PC requirements

- CPU: Intel Pentium IV 1.4Ghz or higher
- Memory: 512MB (1GB or higher is recommended.)
- VGA memory: 16MB (64MB or higher is recommended.)
- Resolution: 1024x768
- O/S: Windows 2000, XP Professional, XP home
- Direct X: DirectX 8.1 or higher

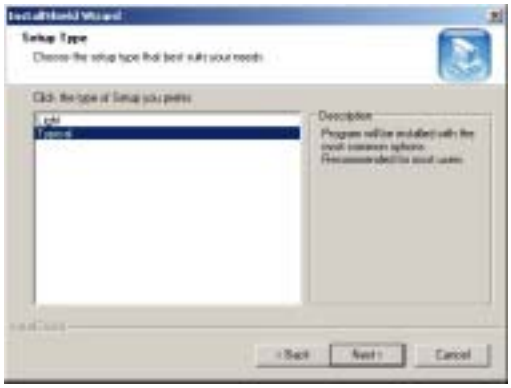
8-2. Installing the network viewer

1. Insert the provided CD in the CD drive and double-click “UMSClient(XXXX)**.exe**”

2. Select a destination folder and click “Next”.



3. Select the type and click “Next”.

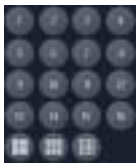


4. Select the program folder and click “Next”.

5. The setup status screen is displayed.

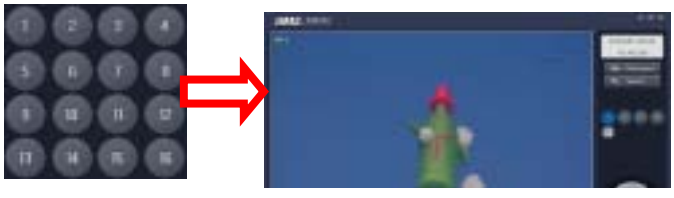
After the installation is completed, **“UMS Client”** icon is displayed on the desktop.

8-3. Live monitoring mode and functions.

Button	Function	Description
	DATE & TIME	Displays the current date and time.
	CONNECT/DISCONNECT	Connect/disconnect network connection.
	SEARCH	Switches the live mode to search mode.
	**DISPLAY MODE**	Select a channel and screen display mode.
	PAN/TILT/ZOOM/ FOCUS	Control the PAN/TILT/ZOOM/FOCUS features on the remote camera.
	CAPTURE	Capture a still image from live screen.
	PLAY/PAUSE	Play/pause live video.
	ALARM	The ON/OFF button of the alarm output of the DVR. When an alarm of the DVR is output, this button becomes Red.
	SETUP	Display the setup screen of the network viewer.
	HDD USAGE	DVR HDD storage Indicator.
	NETWORK BANDWIDTH	Shows the transferred frames and network bandwidth.
	AUDIO	Adjust the volume. The audio can be turned on or off by clicking the audio icon.
	LOG WINDOW	

Operations of the display mode of the main screen

- Single channel display - Click the one of channel button or double-click the channel screen.



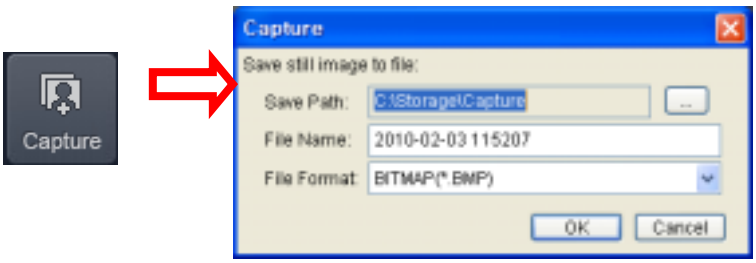
■ QUAD/-screen display - Click the QUAD button to switch to quad-screen display

■ Full screen display - Click the maximize button to display only screen and hidden the operation panel.

Image capture of live screen

Still-image of live screen can be captured and saved as BMP or JPEG file.

1. Click the channel to be captured. Then the channel screen is surrounded with a red line.
2. Click the CAPTURE button. Then the IMAGE CAPTURE dialog is displayed.

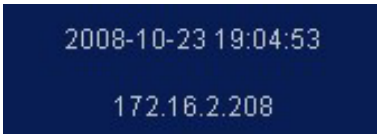
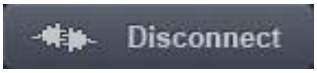
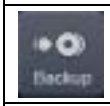


3. Set the conditions and click OK button. Then still-image is saved.

8-4. Bi directional audio

The UMS Client allows for bi directional audio between the client and a dvr unit. On the PC, to use bi directional audio, you will need a sound card of handling a microphone and speakers. On the dvr side, you will need to connect a microphone to the audio in connection, and a pair of amplified speakers to the audio out connection.

8-5. Remote search mode and functions

Button	Function	Description
	**DATE & TIME**	Displays the recording time of the data selected on the time bar at the bottom of the main user interface.
	**DISCONNECT**	Disconnect network connection..
	LIVE	Switches the search mode to live mode.
	CAPTURE	Capture a still image from live screen.
	MARK IN	Set the start time for video backup.
	MARK OUT	Set the ending time for video backup.
	**BACKUP**	Backup the selected recorded video as AVI format.
	SEARCH CALENDAR	The calendar shows dates with recorded video in a light blue and the selected date in dark blue.
	TIMELINE BAR	The timeline shows recorded data in dark blue on the bar.
	PLAYBACK BUTTON	The playback buttons.

	DISPLAY MODE	Select a channel and screen display mode.

Searching and playing video in the remote DVR

Video recorded in the remote DVR or Video recorded on the PC can be searched and played back.

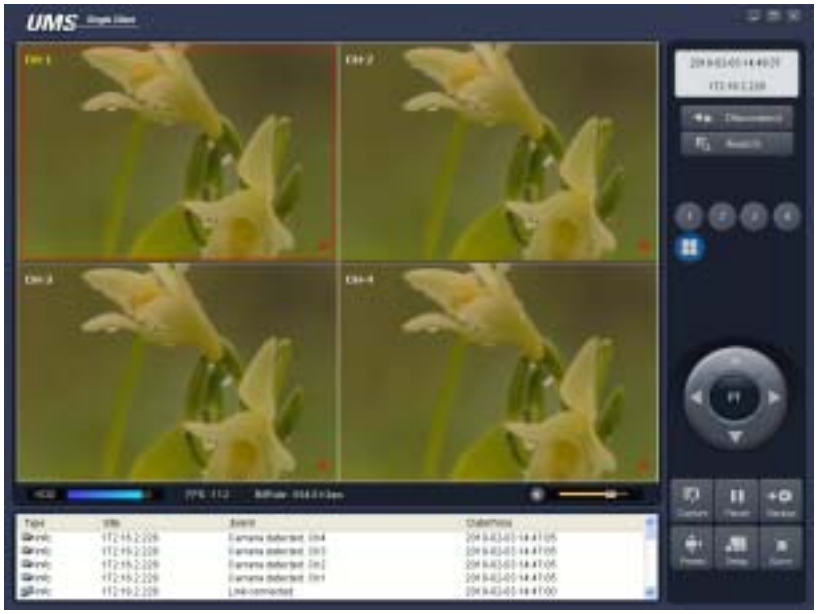
1. Connect the network to the remote DVR and press SEARCH button. Then the mode is changed from the live mode to the search mode.

- Searching the video recorded in the remote DVR: Connect the network to the DVR..
- Searching the video recorded in the PC: Do not connect the network to the DVR.

2. Select the date to search the video.

3. Drag the slid on the time scale and drop it between 0 to 24.

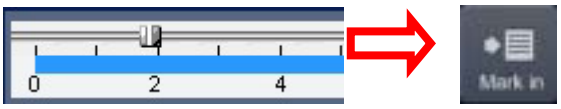
4. Press the PLAY button. Then the video recorded in the remote DVR is played back.



Backup of video in the remote DVR

Video recorded in the remote DVR cab be backed up on the PC HDD as AVI format.

1. Connect the network to the remote DVR and play the video recorded in the remote DVR.
2. Drag the slid on the time scale and drop to the start time for video backup and press the MARK IN button.



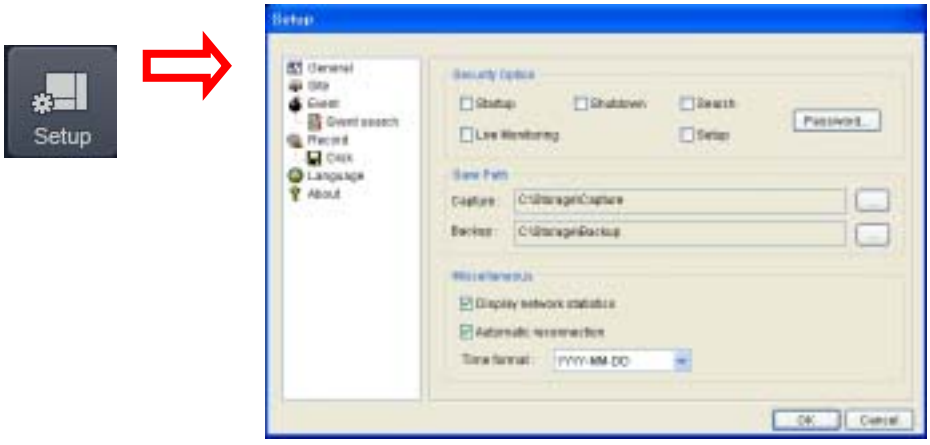
3. Drag the slid on the time scale and drop to the end time for video backup and press the MARK OUT button. Then the marked time is displayed in dark green.

4. AVI Backup dialog is displayed. Click the OK button. Then the marked video is backed up.

- Start time / Stop time: Backup time can be changed.
- File path: Shows the folder that the backup file is recorded.
- Channel: Shows backup channel.

8-6. PC System configuration

Click the SETUP button. Then the Setup dialog is displayed.



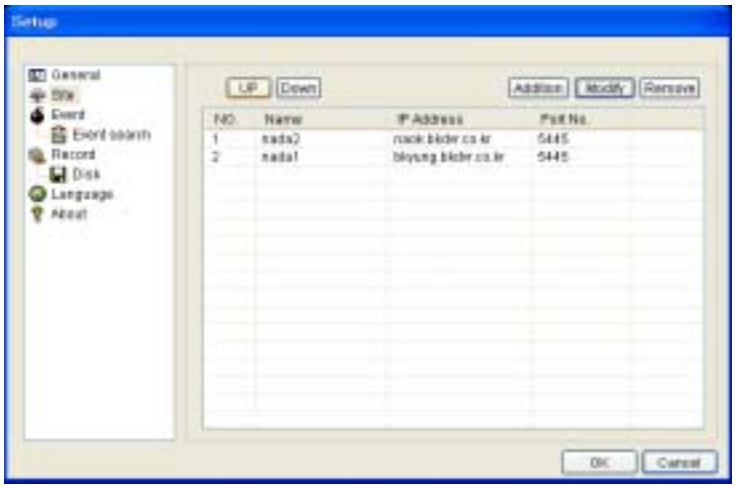
Setting General

Set the Security Option, Save Path, and Miscellaneous.

- **Security Option**: Set a password for security options. When you access any of the selected functions, you will need to enter the password.
- **Save Path**: Specify the location to record for backup and still image capture.
- **Automatic reconnection**: If a user selects this function, the client S/W will automatically try to connect to the previously connected IP address if the network connection is lost.
- **Display network statistics**: If a user selects this function, the client S/W will display network status, Bit rate and Frame rate.
- **Time Format**: Change the mode the Client software displays the time.

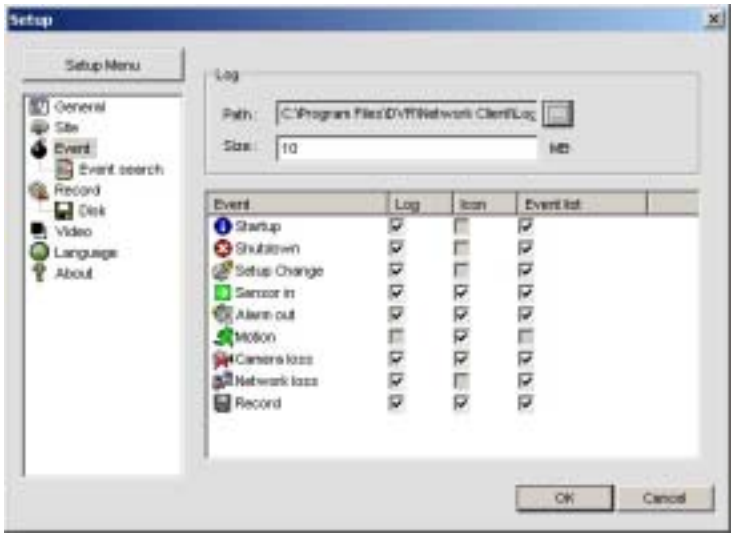
Setting Site

The remote DVRs can be added, modified, and removed.



Setting Event

Set the record path and the size of local disk space for the log files.



- LOG – Select to save event log into ‘log file’.
- ICON – Select to display the event on live video.
- EVENT LIST – Select to show the event in the ‘Event List” window of live mode.

Search and check the recorded log data.

Setting Record

Set the recording conditions and select channels to record.

Select the local disk to use and the amount of disk space you want to allow the program to use for recording.

9. Network access using the Exclusive network viewer, UMS multi

9-1. Overview

The UMS Multi-Client is a multiple site monitoring client software with; video, audio, and alarm signals from the DVRs over networks. The UMS Multi-Client does not limit the number of DVR units to register.

The program displays to up 256 live videos on one display and even playback videos window on the same or another display monitor.

On the program, user may control PTZF cameras on the DVRs. By attaching a microphone and speaker system to devices on site, user may make bi-directional audio communication over the network.

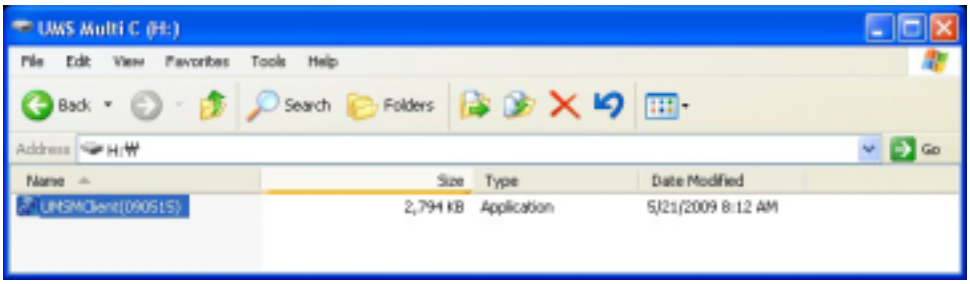
9-2. Minimum PC requirements

CPU	Intel PentiumⅣ
	2Ghz
Memory	512MB or Higher is recommended.
VGA	128MB or Higher is recommended.
Resolution	1024x768
Disk space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista (Some versions of Vista has problem in installation. Please contact your vendor for more information.)
Network	10/100Base T
Others	Direct X 8.1 or Higher

Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

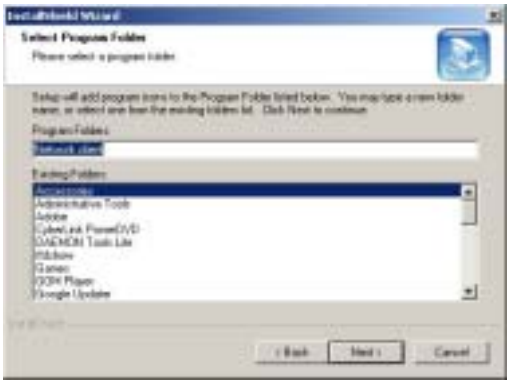
9-3. Installing the program

1. Insert the provided CD in the CD drive and double-click “UMSMultiClient (XXXX)**.exe**”

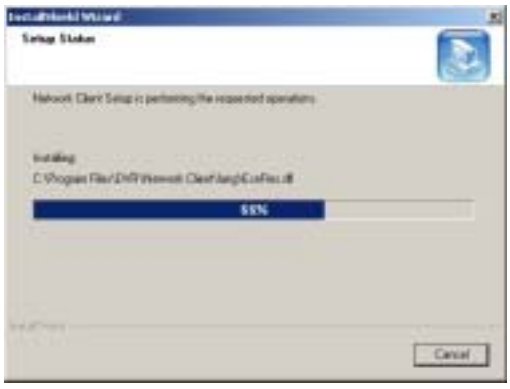


2. Select a destination folder and click “Next”.

3. Select the program folder and click “Next”.



4. The setup status screen is displayed.



5. After the installation is completed, **"UMS Multi Client"** icon displays on the desktop screen.

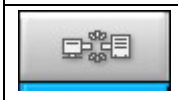
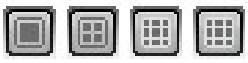
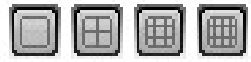
9-4. Live Window

When installation is completed, double click the **"UMS Multi Client"** icon on your desktop to start the program.

9-4-1. Main user interface

9-4-2. Control buttons

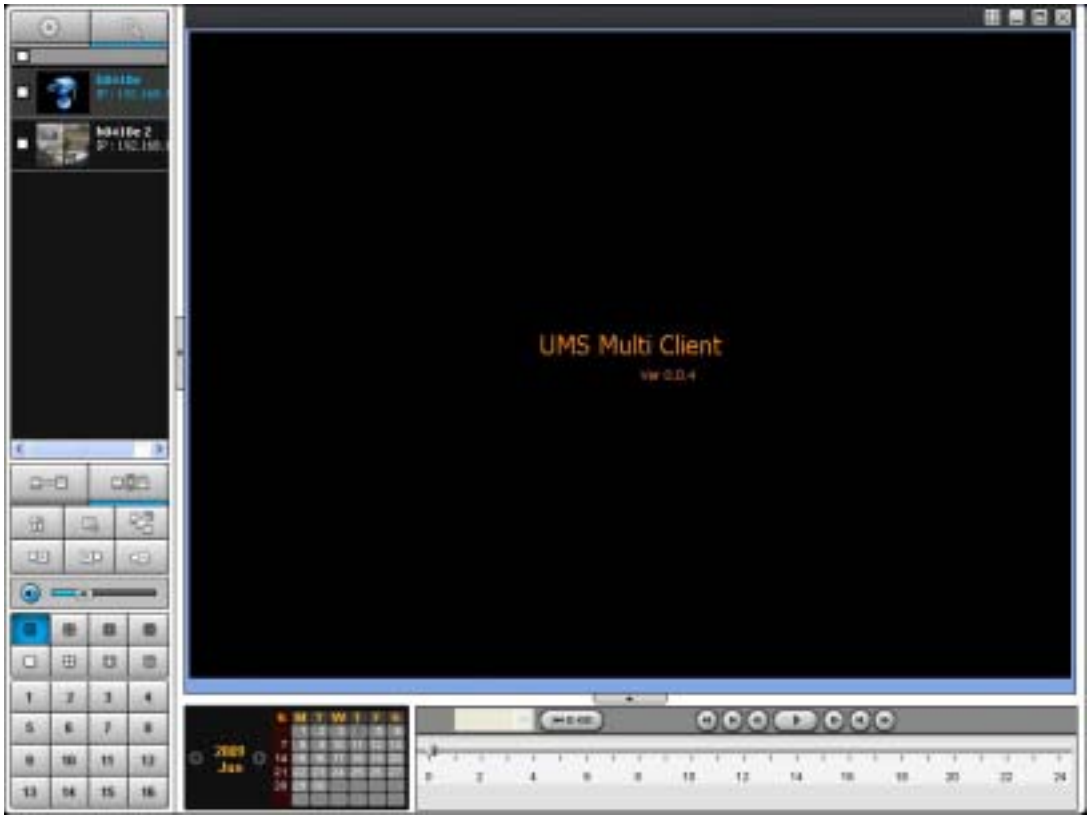
Button	Description
LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.

SITE MANAGEMENT	THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of every connected site. SITE ADDITION: Click this icon to open 'Site Addition' window. SITE DELETE: Click this icon to delete site from the index window, after disconnect a site. SITE MODIFY: Select the site from the index window and click this icon to open 'Site Modify' window.
 CONNECT	Click this icon to connect the selected site/sites.
DISCONNECT	Click this icon to disconnect the selected site/sites.
SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
CAPTURE	Click this icon to capture a still image
EVENT LIST	
PAUSE	Click this icon to play/pause live video.
ALARM ON	
RECORD ON	Enable or disable recording of live video to local disk which has set in setup menu.
AUDIO	Use the volume control bar to set the audio level.
MIC	Use the micro phone volume control bar to set the micro phone level.
	User can control PAN/TILT & ZOON/FOCUS. PAN left /right TILT up/down ZOOM in/out FOCUS in/out
 CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
 DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.

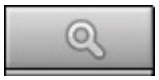
9-5. Search and Playback Window

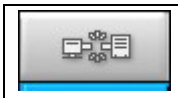
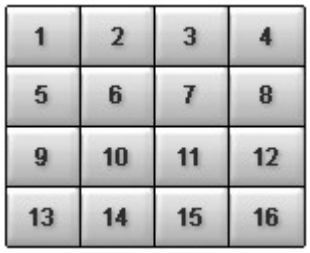
9-5-1. Main user interface

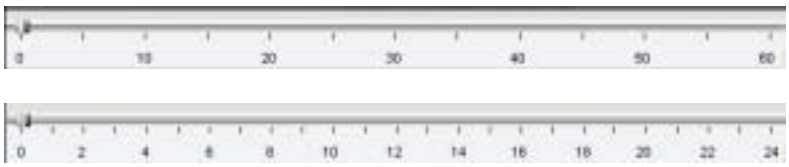
You can access to search window by clicking the search icon (Local Playback / Remote Playback) on the upper left of Live Window.



9-5-2. Main control panel

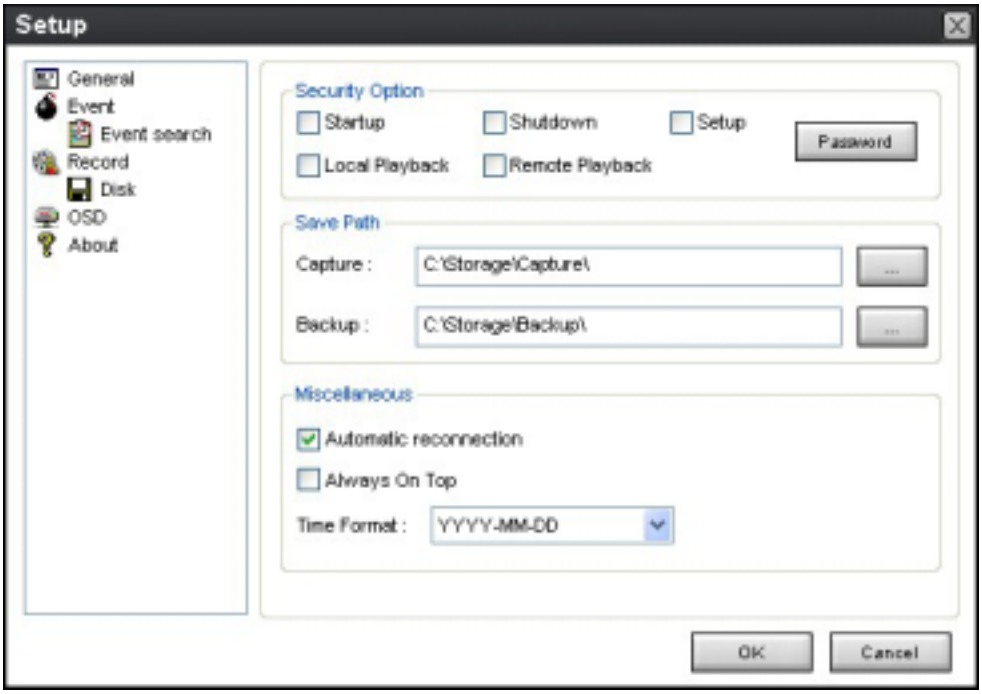
Button	Description
LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
 REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
	Directory window shows site/sites that are pre-registered.

 CONNECT	Click this icon to connect the selected site/sites.
DISCONNECT	Click this icon to disconnect the selected site/sites.
SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
CAPTURE	Click this icon to capture a still image.
EVENT LIST	
MARK IN	Click this icon to set the beginning time for backup of the recorded video in AVI format.
MARK OUT	Click this icon to set the ending time for backup of the recorded video in AVI format.
BACKUP	Click this icon to backup the recorded video in AVI format.
AUDIO	Use the volume control bar to set the audio level.
DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.
CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
	To select the channel to playback.
	The calendar shows dates with recorded video in color.
	To display the recorded data of selected channel or all channels on a time line scale.

0-60 24 HOUR	To change a time line scale from 24 hours to 60 minutes or vise versa.  The timeline shows recorded data in color on the bar. You can adjust the time line scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.
	Playback buttons.

9-6. Setup of UMS Multi Client

Click the setup icon to setup the configuration of UMS Multi Client software. The Setup window displays.



9-6-1. General

9-6-1-1. Security Option: Set a password for security options.

Select security options and set a password.

Then when you access any of selected functions, you need to enter the password.

You can also set the save path for capturing and backup.

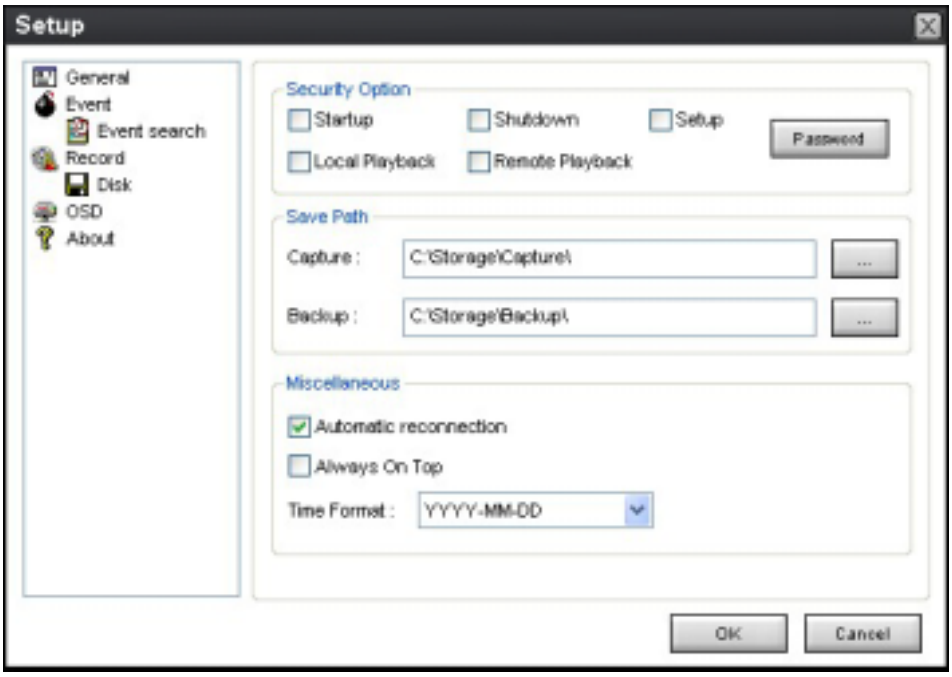
9-6-1-2. Save Path: Specify the location to save captured still image for Capture and Backup data.

9-6-1-3. Miscellaneous

Automatic reconnection: If a user selects this function, client S/W will automatically try to connect the finally connected IP address, after the network is disconnected.

Always On Top:

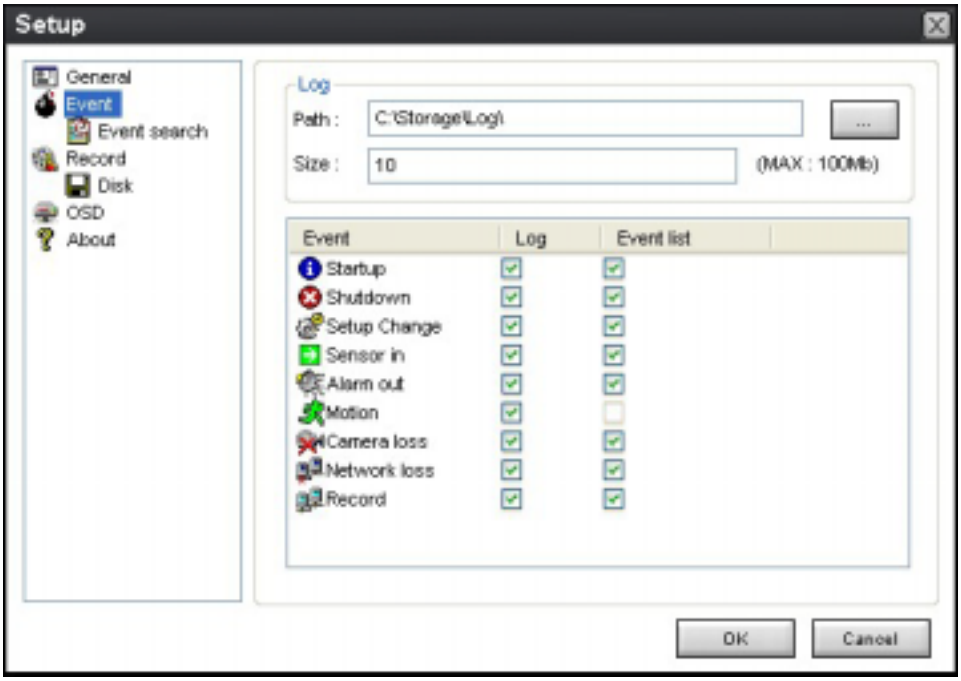
Time Format: Change the way the Client software displays the time.



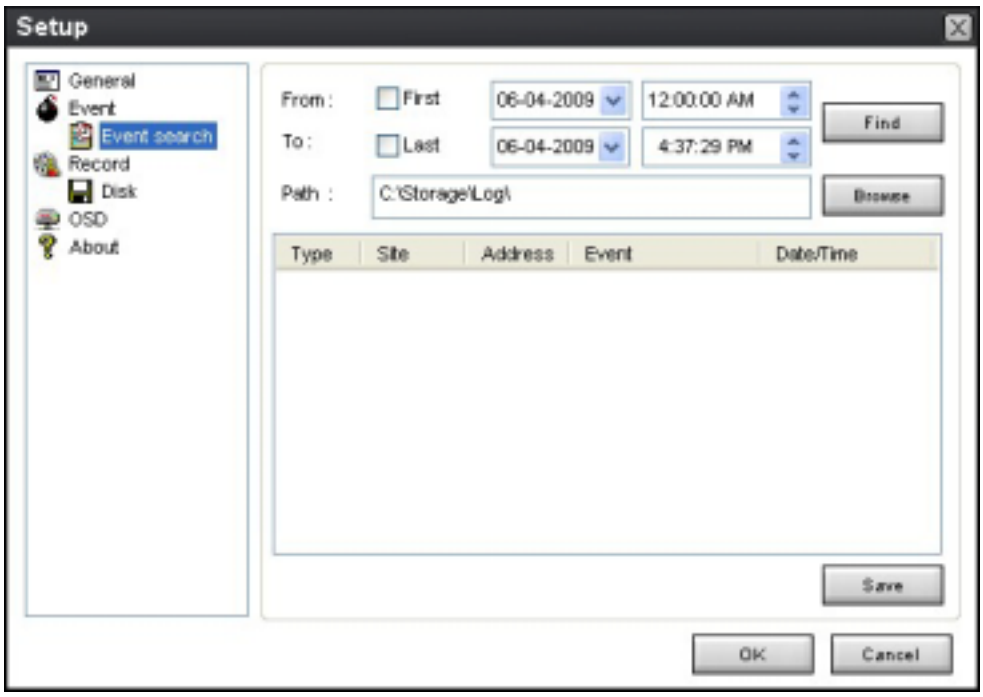
9-6-2. Event

Event log can be archived and searched.

9-6-2-1. Archiving Event Log: Specify the location to save event logs and select event to archive.



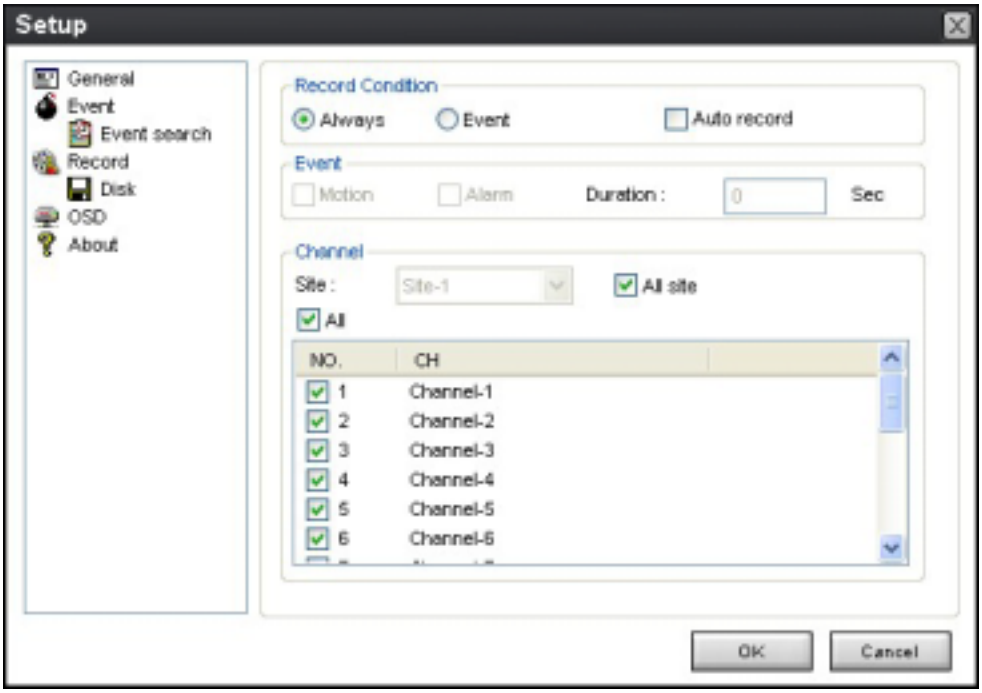
9-6-2-2. Archiving Event Log: Event log can be searched from selected time.



9-6-3. Record

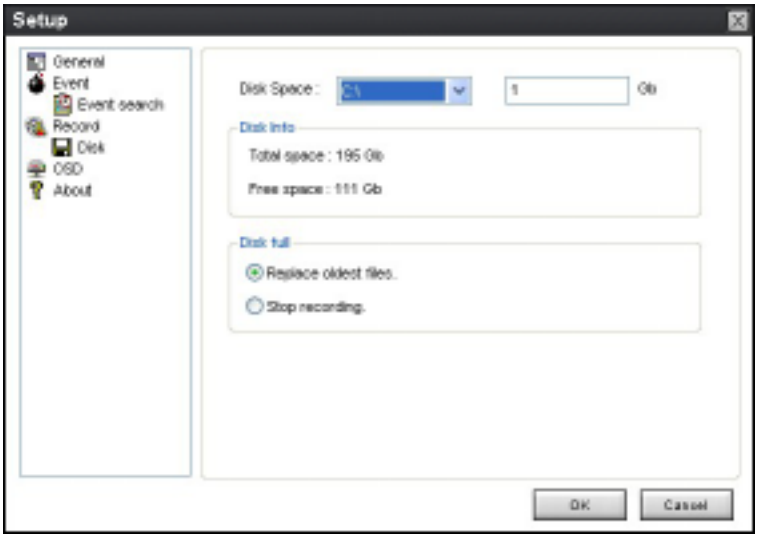
8-6-3-1. Record setup: You can set the recording conditions for Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels.

When you set the recording condition to event, you can set event for motion or alarm with duration.



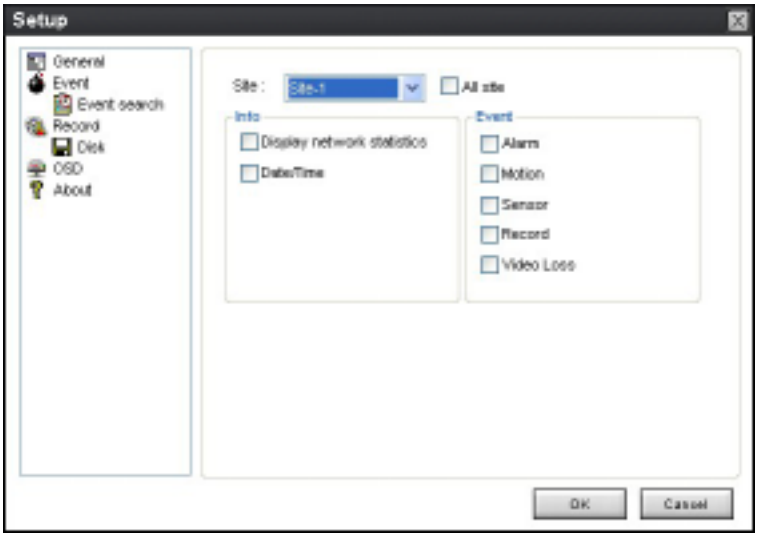
9-6-3-2. Record local storage setup: You can select the local disk to use and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop

recording when the maximum amount of disk space is full.



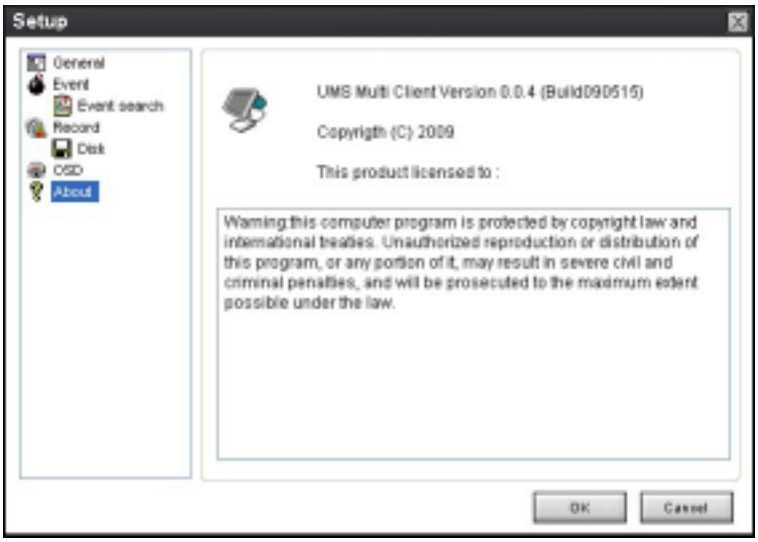
9-6-4. OSD

You can select the OSD to be display



9-6-5. About

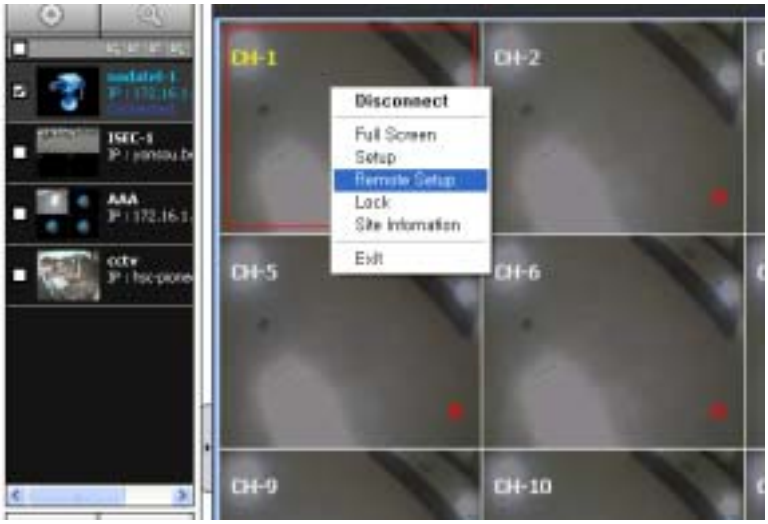
“About” provides network client version information.


Setup
General
Event
Event search
Record
Disk
OSD
About
UMS Multi Client Version 0.0.4 (Build090515)
Copyrigth (C) 2009
This product licensed to :
Warning:this computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
OK
Cancel

9-7. Remote Setup

The menu settings for the DVR unit can be set from a PC, via network.

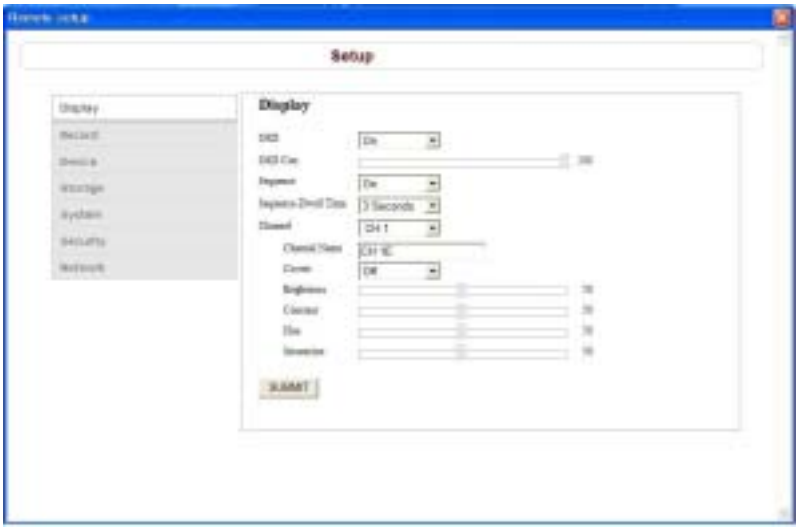
Put the cursor of the mouse on the channel which is connected to the site and press the right. Then the following window is displayed. Select the **Remote Setup**.



Then the setup window is displayed. The specified menu screen is displayed on the upper left of the screen. Setting is basically the same as with the DVR menu setting. Refer to the corresponding pages for details on the setting items.

9-7-1. Setting the Display

Select **Display** to set the live video display conditions



These settings apply to all channels.

OSD: Sets whether to display or not date and time as well as channel number on the screen.

OSD Contrast: Adjust the character contrast on the screen.

Sequence: Setting for automatically switching the displayed video.

Sequence-Dwell Time: Sets the interval for automatically switching the screens.

These settings apply to the specified channel only.

Channel designation

Channel Name: Sets a channel name.

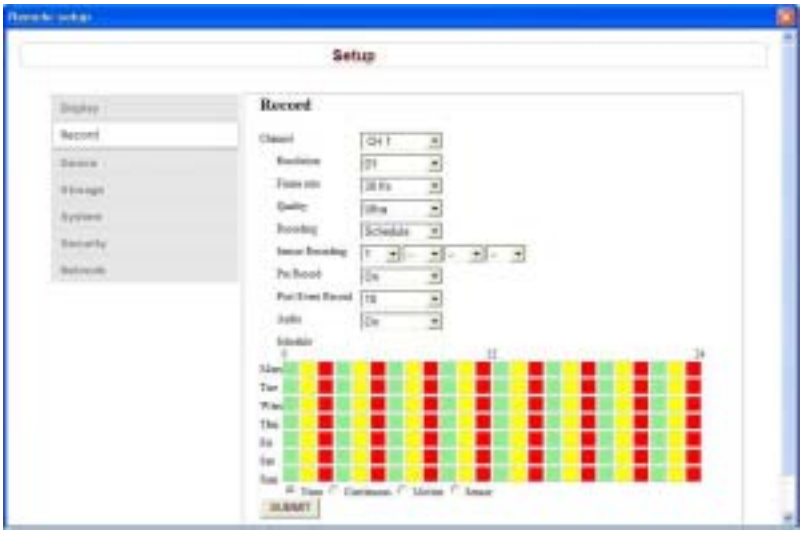
Covert: Sets whether to display or not video from the channel on the monitor.

Video image adjustment: Brightness, Contrast, Hue and Saturation

SUBMIT: Save surely by pressing this button after setting the value.

9-7-2. Record

Select **Record** to set the recording conditions.



These settings apply to the specified channel only.

Channel designation

Resolution: Sets the resolution for the recordings. The set value applies to all channels.

Frame Rate: Sets the recording rate.

Quality: Sets the image quality in 5 levels.

Recording: Sets the recording mode.

Sensor Recording: Sensor recording is performed when an external sensor signal is input to the specified external sensor input terminal.

Pre Record: Sets whether to perform or not pre recording.

Post Event Record: Sets the duration of the event recording.

Audio: Sets whether to perform or not audio recording.

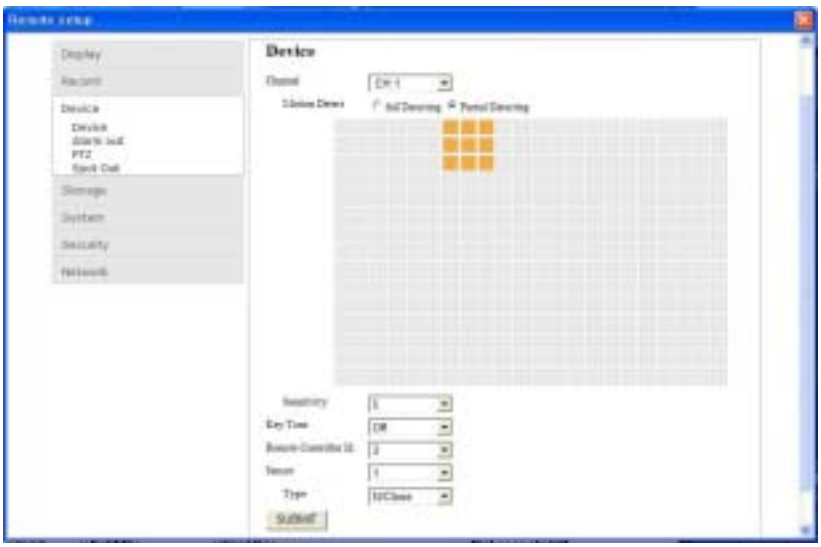
Schedule: Sets the schedule for schedule recording. None: Gray, Continuous: Green, Motion: Yellow, Sensor: Red

SUBMIT: Save surely by pressing this button after setting the value.

9-7-3. Device

Select **Device** to set the motion zone, sensor input/alarm output conditions, PTZ control and spot setting conditions.

9-7-3-1. Device



Setting the motion zone/Sensitivity: Select the zone where the motion sensor is active. It is necessary to set a detection frame when PARTIAL ZONE is selected. Select the level of detection sensitivity of the motion sensor. Sensitivity selections: 1~9(High sensitivity level)

Partial Zone: If selecting Partial Zone, a button is displayed to the right. Click the button and click(or drag)a grid cell in the desired detection frame.

Key Tone: Sets On or Off of Key Tone.

Remote Controller ID: Sets an ID number on the supplied remote control for its identification.

Setting a sensor input terminal: Specify a sensor input terminal number and set the type.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-3-2. Alarm Out

Setting an alarm output terminal: Sets the alarm output conditions.

Alarm out No.: Lite series supports just one alarm output.

Sensor In: Outputs an alarm signal when the specified external sensor input terminal receives an input.

Motion On: Outputs an alarm signal when the specified video input terminal receives a motion detection signal.

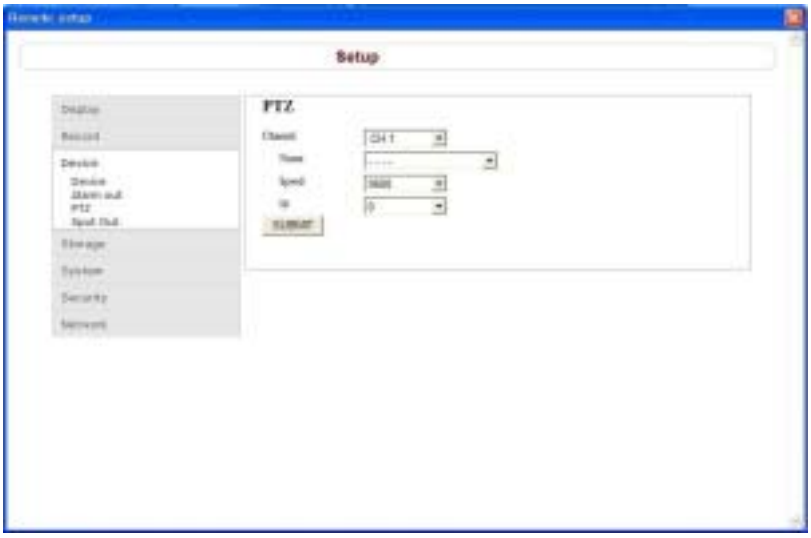
Video Loss On: Outputs an alarm signal when a video loss occurs in the specified video input terminal.

Alarm Duration: Sets the duration of the alarm output signal

Error Alarm: Sets whether to output or not an alarm signal when the error condition occurs.
(Options are OFF, ALL, HDD ERROR and VIDEO LOSS.)

SUBMIT: Save surely by pressing this button after setting the value.

9-7-3-3. PTZ



Setting the PTZ Control: Sets the communication environment for remotely operating PTZ dome cameras connected to RS485 terminals.

Camera channel designation

Name: Sets the protocol type for the specified channel. When connecting multiple cameras, set the same protocol for all.
Speed: Sets the communication speed. The set value applies to all channels.
ID: Sets the camera ID.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-3-4. Spot Out

Setting the SPOT: Sets the output conditions of the spot video terminal.
Spot Type: Sets the output screen layout of the spot terminal.
Spot On Event: Sets whether to output or not the video of a sensor recording to spot while it is being recorded.
Spot Event Dwell Time: Sets the output duration of the sensor recording video.
Sequence: Sets whether to automatically switch or not the video output to spot terminal.
Sequence Dwell Time: Sets the video switching interval if Sequence is set to ON.
Spot Channel: Sets the channel that outputs video to the spot terminal.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-4. Storage

Select **Storage** to configure continued recording settings by overwriting the hard disk and the storage period for the recording data.

Overwrite: To continue recording by overwriting when the hard disk becomes full, check the checkbox.

Disk Info: User can know his/her disk information; HDD size, start time and last time.

Record Limit: Sets whether to limit or not the recording data storage period.

Record Limit Days: Sets a recording data storage period.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-5. System

Select **System** to set system and time settings.

9-7-5-1. System

Setting the System

DVR ID: Sets individual designation to DVRs.

Language: Sets the display language on the system.

Client Access: To give permission to operate from an external PC by checking the checkbox.

Bandwidth Saving: Sets if the network bandwidth is not large enough when monitoring live videos by checking the checkbox. Live videos advance frame by frame(At the rate of 1 frame per second)

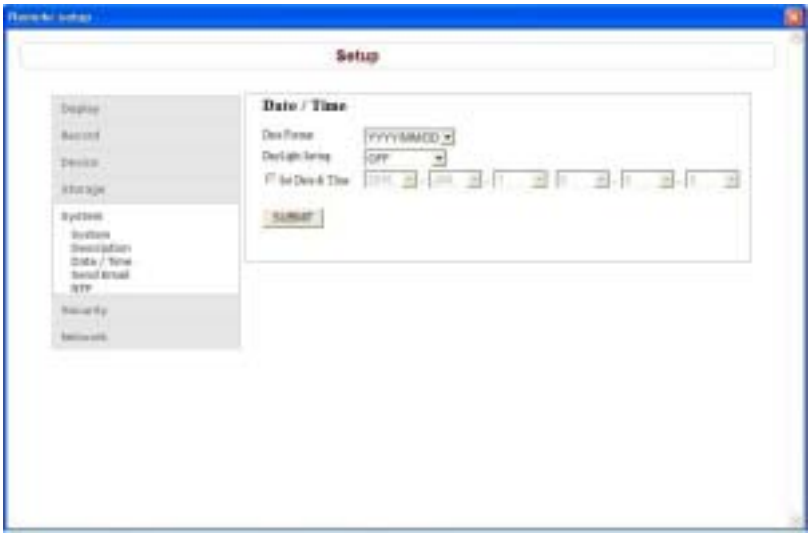
SUBMIT: Save surely by pressing this button after setting the value.

9-7-5-2. Description

Description: To check information on the DVR such as the version information.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-5-3. Date / Time



Date Format: Sets the date display format.

D.S.T./SUMMER TIME: Sets whether daylight saving is applicable or not.

Clock Set

OFF: Daylight saving not applicable.

U.S.A.: USA daylight saving time applicable.
EU: EU daylight saving time applicable. Select the GMT Area.(+00:00 to +05:00)
OTHER: Sets the start and end dates of the daylight saving period for time zones other than USA and EU. (Begin/End)
(Memo: A confirmation dialog is displayed when [Apply] or [ok] is clicked if the date and /or time settings have been changed. The DVR is restarted and the date and time updated when [YES] is clicked on the confirmation dialog.)
Set Date & Time: Sets the current date and time.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-5-4. Send E-mail

Setting the Send E-Mail:
This setting is used to automatically send a notification e-mail to a specified address when an alarm occurs. (Memo: The DVR will be forcibly restarted if a value on this screen is changed.)

Send E-Mail: Sets whether to enable/disable e-mail sending function.
Transmission Mode: Enables sending image of the channel that triggered the alarm when an alarm event is triggered.
IP Notification: To send a notification e-mail when the DVR IP address is changed, check the checkbox.
Event Alarm: Sets whether to enable/disable sending e-mail reports on the channel that triggered the alarm when an alarm event is triggered.
Mail Address: Input the destination address.
Mail Server Name: Input the SMTP server name as well as the user ID and password.
Return Mail Address: Set the source e-mail address to be notified to the destination.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-5-5. NTP

Setting the NTP: It allows synchronizing the time using an internet of LAN NTP server.

NTP: Sets whether to synchronize the time using NTP server or not.
Primary SNTP Server: Input the NTP primary server address.
Secondary SNTP Server: Input the NTP secondary server address.
Time Zone: Select the time zone.
Connection Mode: Select the connection mode to NTP time server.
Time: Synchronize the time at the time that is set.
Interval: Synchronize the time by hours that is set
Connection Period: Set the connection period.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-6. Security

9-7-6-1. User Authentication

Select **Security** to set password check for user authentication for the specific functions such as SETUP, PLAYBACK, PTZ control, RECORD OFF, PLAYBACK ON/OFF and NETWROK connection.

Checking the checkbox: Ask for a password when the given function is selected for all users

SUBMIT: Save surely by pressing this button after setting the value.

9-7-6-2. User Password

Changing the user password: It could change the user password on the system.

SUBMIT: Save surely by pressing this button after setting the value.

9-7-7.Network

Select **Network** to set information about the DVR network.

9-7-7-1. Network

Network Type

LAN: The address setting mode is manual. Input IP, Gateway, Subnet Mask, and DNS server IP.

DHCP: The address setting mode is automatic. Addresses and other information do not need to be set.

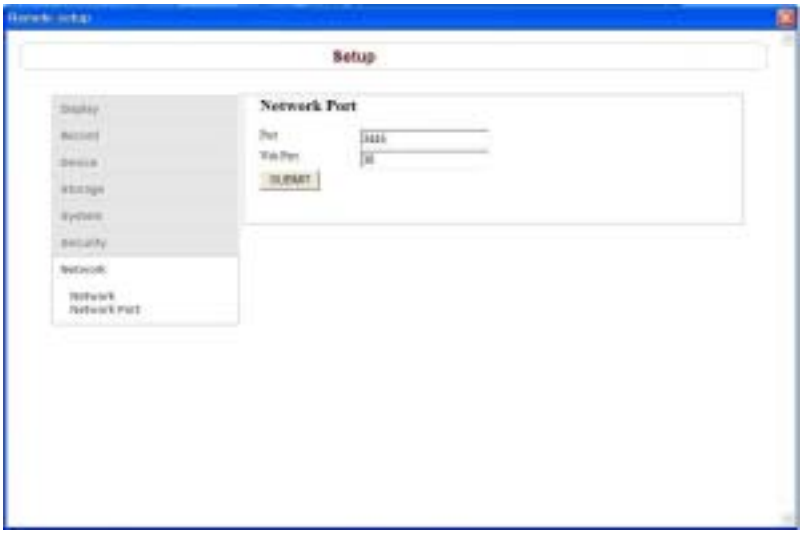
ADSL: Input the login ID and Password.

DDNS: Set whether to use DDNS service or not.

Network Stream: Set a frame rate and bit rate for a network streaming. (Total frame rate is CIF 100/120fps)

SUBMIT: Save surely by pressing this button after setting the value.

9-7-7-2. Network Port



Port: When connecting multiple DVRs to the network, set a unique port number to each DVR.

Web Port: Set a web server port number.

SUBMIT: Save surely by pressing this button after setting the value.

9-8. Operation

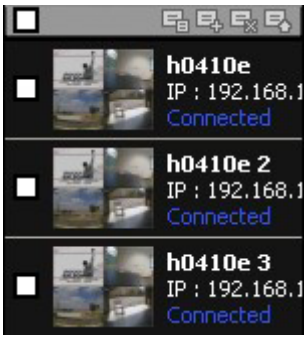
9-8-1. Addition, Delete, and modify of DVR sites

9-8-1-1. Addition of sites

1. Click SITE ADDITION button. And then the following window displays.

- Site Name: Input a name that properly describes a site.
- IP Address: Input IP address (Public IP address of a router that DVR is connected.) or Domain name that is registered at www.okddns.com (for Korea), www.ddnscenter.com (for USA) or www.bestddns.com (for other area including EU)
- Port No.: Input port number of DVR.
- Password: Input network password of DVR.
- Channels: Select the channels number of DVR.

2. Click OK button. And then the registered site is added on the directory window.



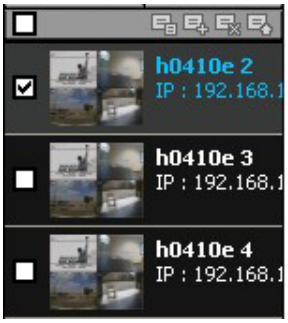
9-8-1-2. Delete of sites

1. Select the site/sites to delete from the directory window.

2. Click SITE DELETE button. And then the selected site/sites is/are deleted.

9-8-1-3. Modify of sites

1. Select the site/sites to modify from the directory window.



2. Click SITE MODIFY button. And then the following window displays.

3. Click OK button. And then the modified information is applied.

9-8-2. Connect and Disconnect

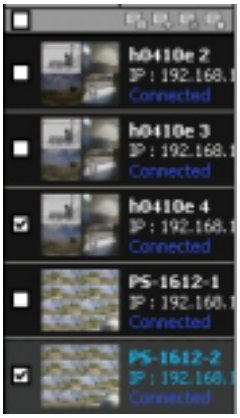
9-8-2-1. Connect

1. Select site/sites to connect from the directory window.

2. Click CONNECT button, and then site/sites displays/display as connected.

9-8-2-2. Disconnect

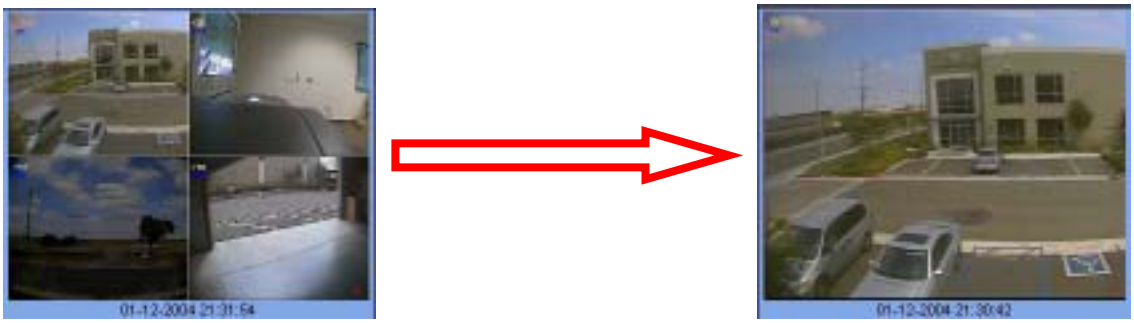
1. Select site/sites to disconnect from the directory window.



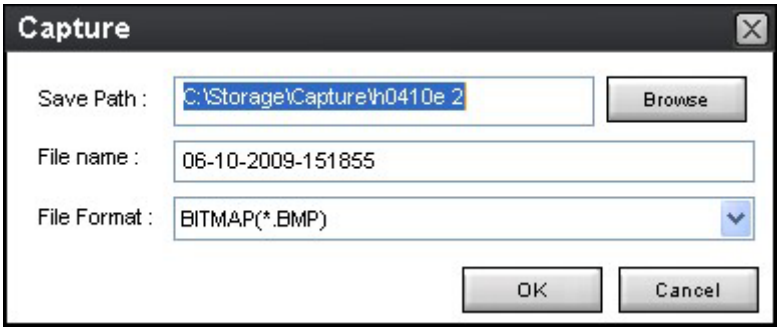
2. Click DISCONNECT button, and then selected site/sites disconnected.

9-8-3. Still-image capture during Live

1. Double-click a channel to capture from the display screen. (Otherwise all channels will be captured.).

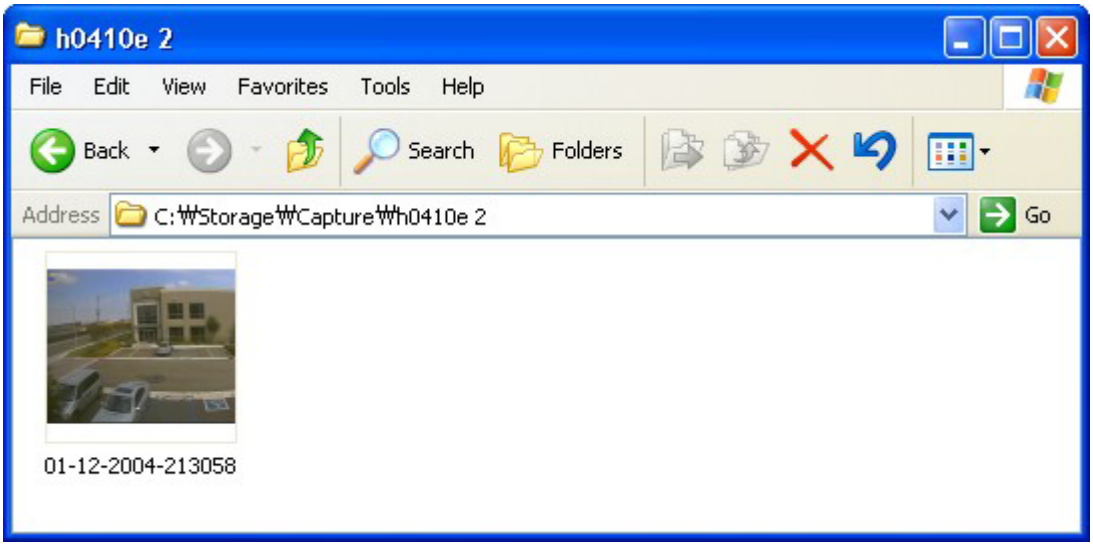


2. Click CAPTURE button. And then a Capture window displays.



3. Set Save path, File Name, and File Format. And then click OK button.

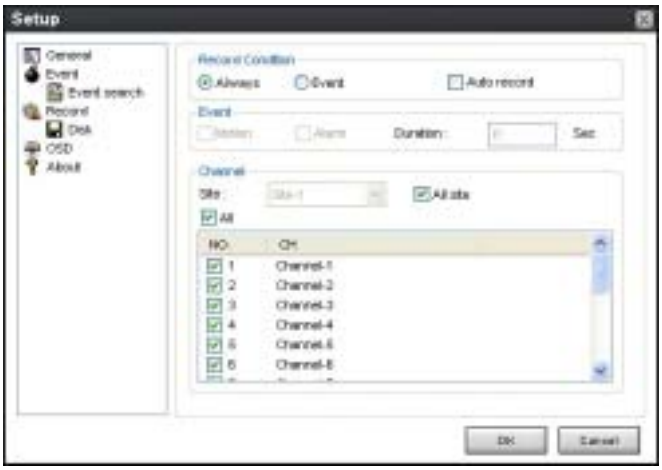
4. Still image is saved as set in Capture window.



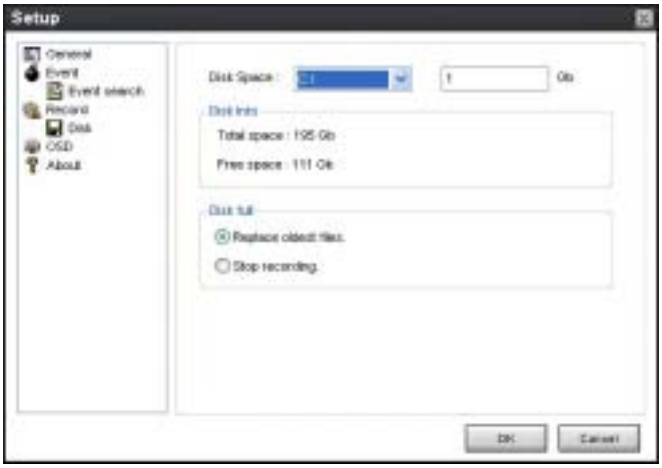
9-8-4. Recording video on local PC during Live

1. Click SETUP button. And then a setup window display.

2. Select Record and set the values.

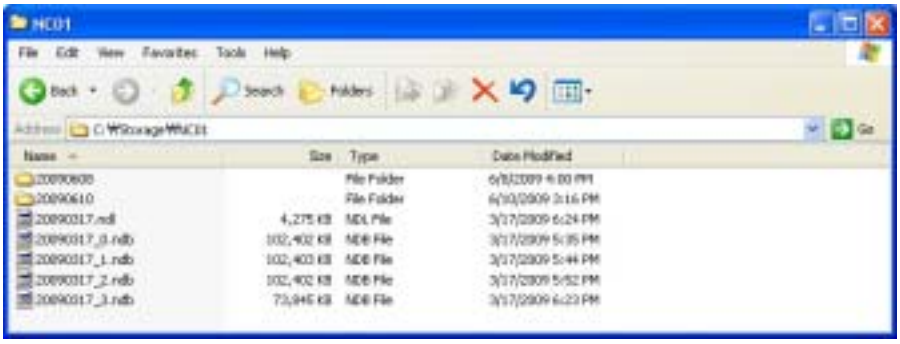


3. Select Disk and set the values.



4. Click RECORD ON button. And the color of button is changed.

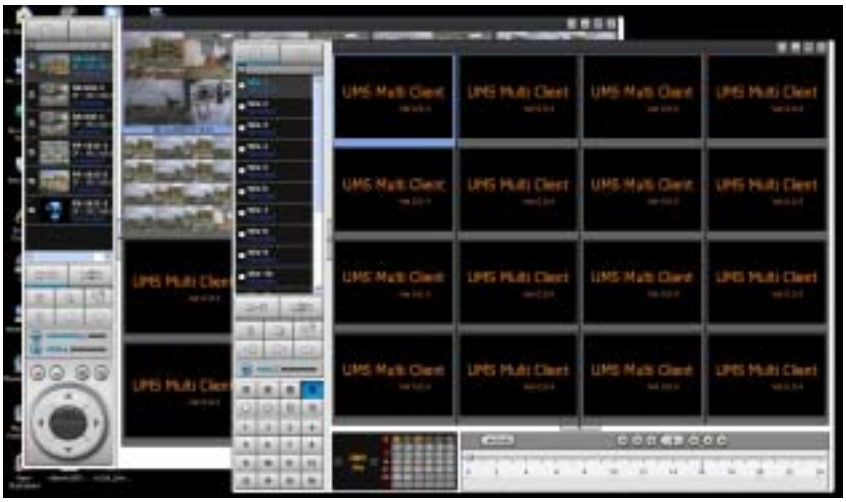
5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.



9-8-5. Local Playback and Remote Playback

9-8-5-1. Playback of recorded video on local PC

1. Click LOCAL PLAYBACK button. And then Playback Window display over Live Window.



2. Select site/sites to connect from the directory window.

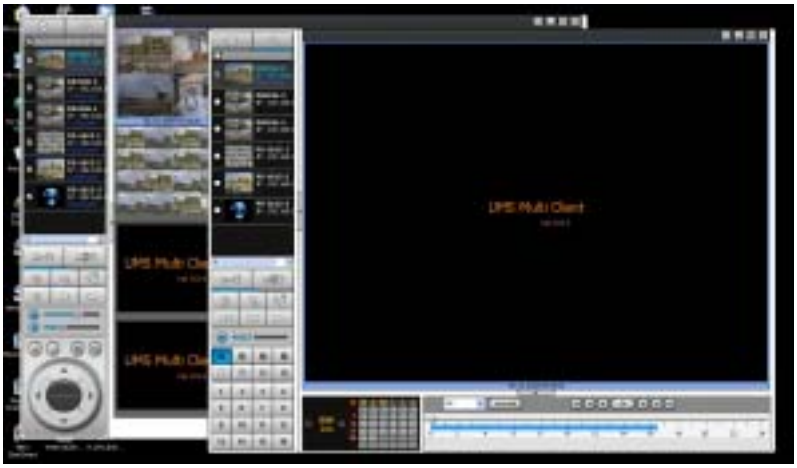
3. Click CONNECT button. And then Green bar displays on Search calendar and slide window.

4. Move scroll bar on where there is video data and Play button.

5. Video data that is recorded on local PC will be play-backed.

9-8-5-2. Playback of recorded video on remote DVR

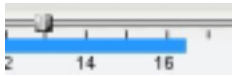
1. Click REMOTE PLAYBACK button. And then Playback Window display over Live Window.



2. Select site to connect from the directory window.

3. Click CONNECT button. And then Green bar displays on Search calendar and slide window.

4. Move scroll bar on where there is video data and Play button.



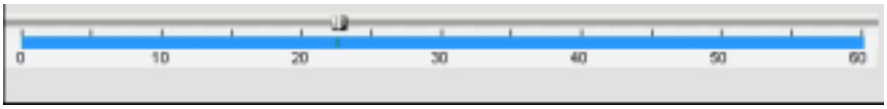
5. Video data that is recorded on a remote DVR is play-backed.

9-8-6. AVI Backup during playback

You can back up the recorded videos in AVI format during playback.

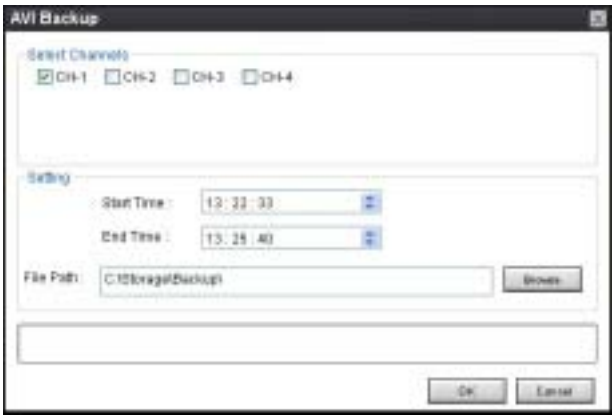
1. Double-click the target channel to backup.
2. Select the beginning time by using the search calendar and slide bar.

3. Click MARK IN button, when the scale of the timeline is located on the target time as the beginning time of backup.



4. Set the ending time on the blue timeline by dragging the scale on the target time as the ending time of backup and clicking MARK OUT button. Then, color of the timeline between the beginning time and ending time will be changed into dark Green.

5. Click BACKUP. And then the window appears as below.



6. You can also set the beginning time and ending time on this window. After selecting a channel for backup, click the OK button. The backup will begin.

7. AVI video data is recorded as set in AVI Backup window. AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

Notice

When PC doesn't have proper H.264 CODEC, the media players cannot playback the AVI format video. Then install CODEC that is provided on the CD.

10. Network – By an web-browser viewer

The DVR provides a live remote monitoring feature by web-browser viewer.

1. Check the IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS.

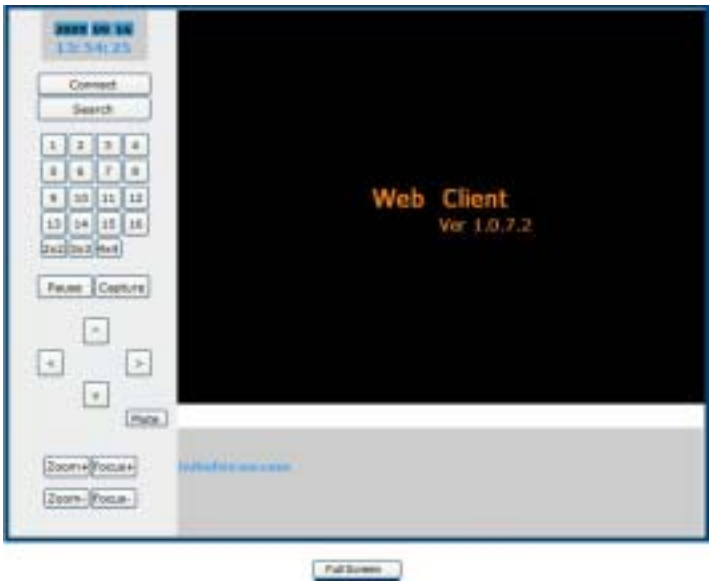
2. Input the IP address or Domain name address that you pre-registered on www.bestddns.com on the address field and press “Go”. Please pre-register on www.okddns.com in Korea and on www.ddnscenter.com in USA.

3. Click this bar. Then the dialog box is displayed.

4. Click “Install” to download ActiveX control.

Internet Explorer - Security Warning
Do you want to install this software?
Name:
Publisher:
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

5. Web Browser Viewer is displayed as bellow.



6. Click CONNECT button on the Left upper corner of web-viewer. Then “Connect” dialog is displayed. Enter IP address (or Domain name address that you pre-registered on www.bestddns.com, www.okddns.com or www.ddnscenter.com, Port number and Password and click “Connect”

- Server address: Input IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or Domain name address that you pre-registered on www.bestddns.com, www.okddns.com or www.ddnscenter.com,
- Port: Input Port number (The number sets on SETUP>NETWORK>PORT)
- Password: Input Password (The number sets on SETUP>SYSTEM>NETWORK PASSWORD

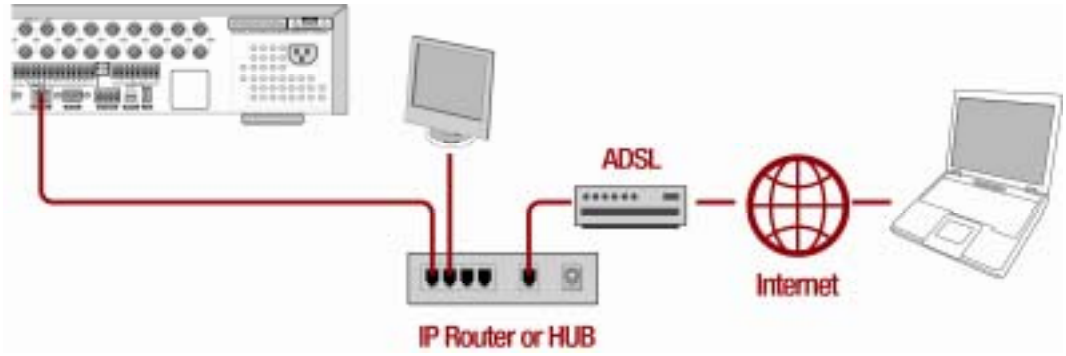
7. Then the cameras connected to the DVR are displayed on the screen.

APPENDIX: How to connect network

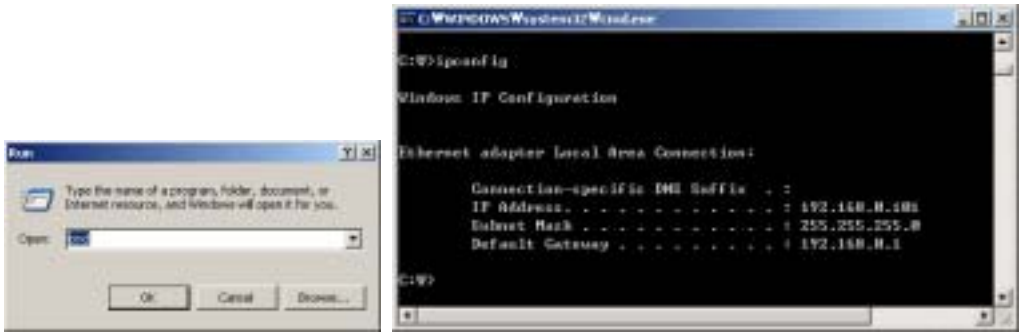
A. How to set IP address of the DVR and open TCP port of the router?

The port forwarding is dependent on the brand and model of the router. The port forwarding is required to allow access to the DVR beyond a router.

Connect network cable between DVR and Router or ADSL modem.



1. Default network setting on DVR are
   - Port: 5445
   - WEB Port : 80
   - Network : DHCP
2. From PC connected in the same Router, find IP address, Gateway, and Subnet mask by IPCONFIG command in command prompt.

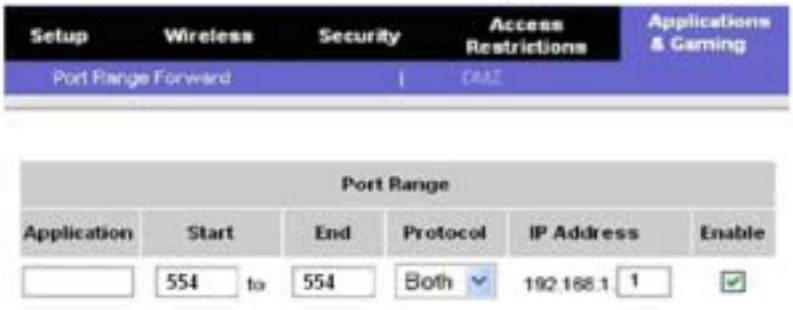


3. But if IP is something else like 192.168.x.xxx., you should change IP address, Subnet, Gateway on the DVR. Go to SETUP>NETWORK>LAN of the DVR and change the IP settings to be like IP: 192.168.XXX.XXX and Gateway: 192.168.XXX.XXX. (Refer to the user's manual of Router.)

Open your web browser. Enter the router IP address in the address bar (The router IP address are different with the brand and model.), click GO.

4. Enter the user name and password (**admin** is default) and press the **OK** button.

5. Select the Port Range Forwarding tab.



6. Enter the each field.
   i. Application: Enter a description of the DVR (Example: store1)
   ii. Start: Enter the first number of the port you need to port forward (Example: 5445)
   iii. End: Enter the last number of the port you need to port forward (Example: 5445)
   iv. Protocol: Select Both.
   v. IP address: Enter the IP address of the DVR on SETUP>NETWORK>LAN>IP ADDRESS.
   vi. Enable: Check the enable box.
7. Select the Save settings button located on the bottom of the window. Then Port forwarding is finished.

Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live channels and storage channels. User need to open 2ports numbers on the router; the DVR port number 5445 and the WEB port number 80.

If this port is not opened properly, user can not access DVR beyond a router.

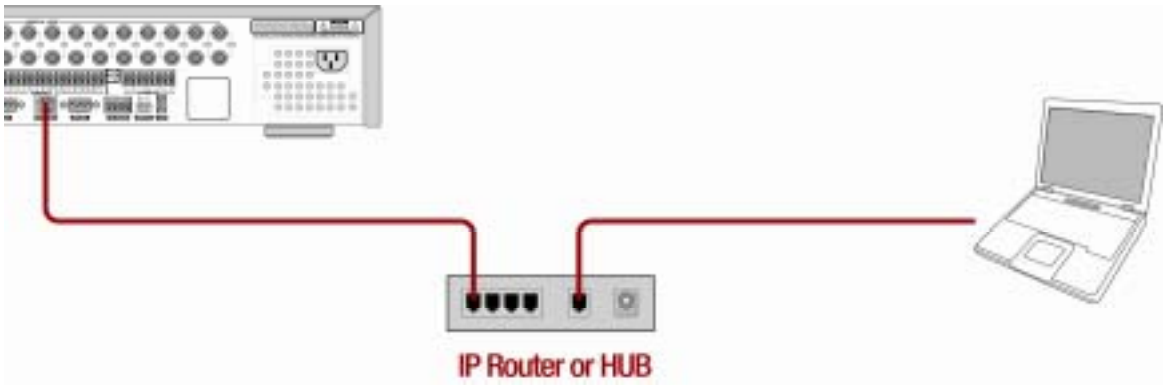
You can learn how to port forward many kinds of Routers from the bellow site.

http://www.portforward.com/english/routers/port_forwarding/routerindex.htm

B. How to access DVR from Remote PC?

LAN Connection – Using a switching hub

Connect to the system, using a hub (Switching hub) and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)

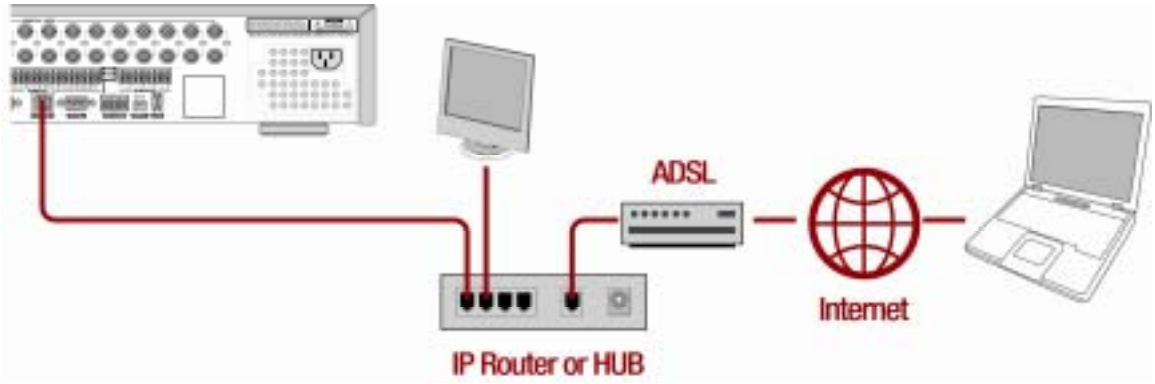


1. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 6. Network access using the Exclusive network viewer)
2. Check the IP address from SETUP>SYSTEM>DESCRIPTION of DVR.
3. Run network client software and click button.

4. Input Site Name, Site Address(IP address), Port No., and Password on the connect window. And click OK. Then, press button after checking the left check box.

Internet (ADSL) Connection using DDNS

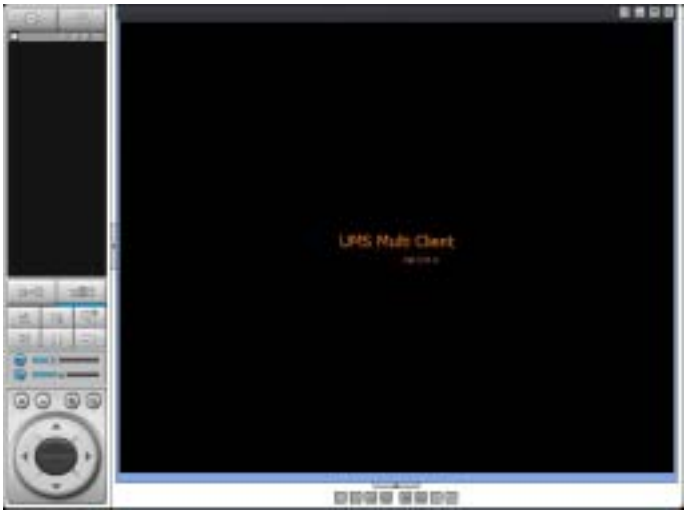
Connect to the system, using an Router or ADSL modem and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)



1. Go to SETUP>NETWORK. Set NETWORK TYPE as DHCP and DDNS SERVER as ON. And make sure that DDNS SERVER NAME is bestddns.com
2. Go to Setup menu of Router and open TCP port 5445 and 80 using Port Forwarding. (Refer to A. How to set IP address of the DVR and open TCP port of the router?)
3. Confirm the Mac address and Serial No. from the label of the rear panel of the DVR.
4. Open the web browser and log on http://www.bestddns.com. Please log on http://www.okddns.com in Korea and http://www.ddnscenter.com in USA.

- MAC Address: Input the Mac address (EX. 0002690XXXXX) without any space.
- Serial Number: Input the Serial No. (EX. 43000700XXX.) without any space.

5. Domain Name: Input Domain Name for your DVR system
6. Click the DUPLICATION CHECK button to see if the domain name is available.
7. If you see the screen “You can use the Domain name you entered” then click RETURN and click REGISTER button to complete the registration.
8. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 8. Network access using the Exclusive network viewer)
9. Click button and add the DVR as necessary.



- Site Name: Input the name of the DVR.
- Site Address: Input the Domain Name that is registered on http://www.bestddns.com. Please log on http://www.okddns.com in Korea and http://www.ddnscenter.com in USA. (EX. XXXXX.bestddns.com)
- Port Number: Input the port number.
- Password: Input the network password.

10. Press button after checking the left check box of the site that you will access.